COMMITMENT & INTEGRITY
DRIVE RESULTS

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WOODARD &CURRAN

February 29, 2008

Ms. Kimberly Tisa, PCB Coordinator
U.S. Environmental Protection Agency Region 1
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: Closure Report
Yale University – Ion Source Room
New Haven, CT

Dear Ms. Tisa:

On behalf of Yale University, please find attached a report providing a description of the PCB remediation activities performed within a small localized room at the Wright Nuclear Structure Laboratory Building on the Yale University campus in New Haven, Connecticut. This report is being submitted to the meet the requirements pursuant to Recordkeeping and Reporting Condition 19 as it is described in EPA's November 19, 2007 Approval, granted under 40 CFR Part 761.61(a).

The PCB remediation activities commenced on December 12, 2007 and were completed on February 6, 2008.

If you have any comments, questions, or require further information, please do not hesitate to e-mail or call me at the number listed above.

Sincerely,
WOODARD & CURRAN INC.

Jeffrey Hamel, LSP, LEP
Senior Vice President

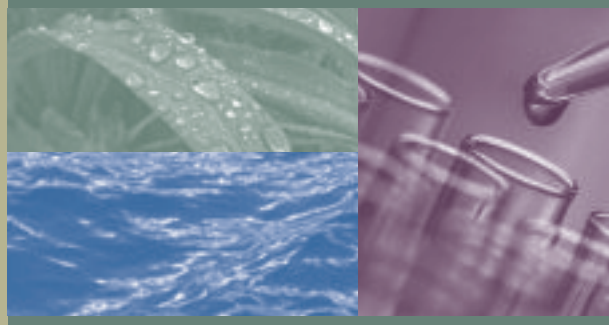
cc: Robert Klein, Yale University
Lori Saliby, CTDEP

CLOSURE REPORT

PCB Decontamination Activities

Wright Nuclear Structure Laboratory

Ion Source Room



210811.00

Yale University
New Haven, CT

February 2008

1.866.702.6371
35 New England Business Center
Andover, MA

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EXECUTIVE SUMMARY

This report provides a description of the polychlorinated biphenyl (PCB) remediation activities performed within a small localized room at the Wright Nuclear Structure Laboratory Building (WNSL) on the Yale University campus in New Haven, Connecticut. Removal and decontamination of PCB affected media was conducted in the Ion Source Room of the WNSL.

Based on historical documentation, it appears that the specific source of the PCBs in the room was former electrical equipment housed and operated therein. Use of the equipment was discontinued in 1975 and the equipment was removed as PCB contaminated material during a surrounding laboratory renovation in July 2007. Samples collected from the concrete floor, metal walls, and within and around a floor drain were taken as a proactive measure by Yale University as it had previously discovered that equipment used in other rooms within the WNSL formerly contained PCBs. The results of this sampling indicated that low concentrations of residual PCBs were present within these materials.

This report provides a description of the PCB remediation activities as they were performed in accordance with the PCB Remediation Plan submitted to the U.S. Environmental Protection Agency on October 30, 2007 and the EPA's Approval for Cleanup and Disposal of PCB Remediation Waste under 40 CFR 761.61(a) dated November 19, 2007.

The PCB remediation activities commenced on December 12, 2007 and were completed on February 6, 2008. Remediation activities were performed by United Industrial Services, Inc. of Meriden, Connecticut. Sampling activities were performed by Woodard & Curran, Inc. of Andover, Massachusetts. Laboratory analyses of concrete and wipe samples were performed by Analytics Laboratory of Portsmouth, New Hampshire.

The PCB remediation activities completed included:

- Cleaning and decontamination of the floor drain pipe followed by verification sampling and visual inspection (decontamination to $\leq$ 10 ug/100 cm^2 total PCBs);
- Decontamination (via chemical washing) of a concrete floor drain sump impacted by PCBs (decontamination to $\leq$ 1 ppm total PCBs);
- Decontamination (via chemical washing) of metal walls (1,800 square feet) impacted by PCBs (decontaminated to $\leq$ 10 ug/100 cm^2 total PCBs);
- Decontamination of the concrete floor (360 square feet) and subsequent removal of 244 square feet of the floor impacted by PCBs (clean up standard of $\leq$ 1 ppm total PCBs); and
- Collection of verification samples for analyses.

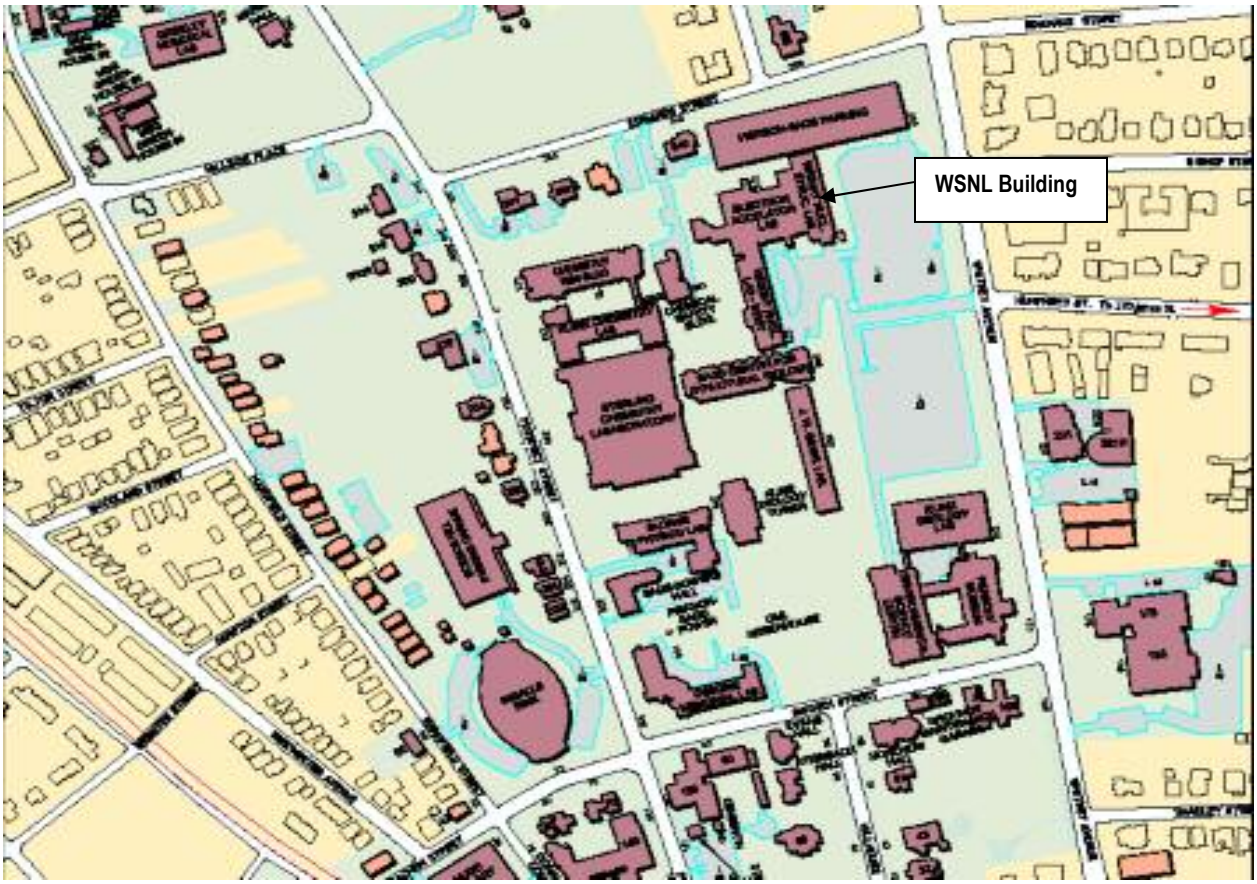
A total of 13 drums of PCB-contaminated concrete and sludge material were transported off-site to United Oil Recovery's Bridgeport, CT facility and then shipped for disposal to the Waste Management American Landfill in Waynesburg, Ohio. A total of 868 gallons of liquid generated from decontamination of the floor, walls, and pipe were shipped to United Oil Recovery's Meriden, CT or Bridgeport, CT facility for treatment.

The results of the remediation and verification activities indicated that all activities were completed consistent with the Remediation Plan and EPA's Approval and that the high-occupancy clean up level has been achieved for remaining surfaces within the Ion Source Room. As such, no further remediation activities are warranted.

1. INTRODUCTION

1.1 BACKGROUND

The Ion Source Room is a currently vacant room within the Wright Nuclear Structure Laboratory Building (WNSL) on the Yale University campus in New Haven, Connecticut. A site location plan is provided as Figure 1 and a campus map of the area is provided below.



The room is approximately 18 feet by 20 feet and about 24 feet in height. The floor is concrete and the walls and ceiling are metal. A portion of the floor is recessed and formerly contained equipment/machinery. A floor drain, located within this recessed portion, drains via a 3-inch steel pipe to a sump located outside of the room and within the building. A sump pump is located within this sump.

Relatively low concentrations of PCBs were detected in samples collected from the concrete floor and metal wall coverings within the Ion Source Room. Based on historical documentation, it appears that the specific source of the PCBs in the room was the former electrical equipment housed and operated therein. Use of the equipment was discontinued in 1975 and the equipment was removed as part of a surrounding laboratory renovation in July 2007 as PCB contaminated waste after proactive sampling by Yale University identified PCBs on the surface of some of this equipment. Samples collected from the concrete floor, metal walls, and within and around the floor drain were taken as a further proactive measure by Yale University as it had previously discovered that equipment used in other rooms within the WNSL formerly contained PCBs.

As described in the October 2007 Remediation Plan, characterization samples included:

- 10 bulk concrete samples from the floor (PCBs ranged from 0.28 to 5.25 mg/kg with 7 samples at concentrations > 1 ppm);
- 19 surface wipe samples from the metal walls and ceiling (PCBs ranged from non-detect to 12.4 $\mu g/100\ cm^2$ with two of the samples at concentrations > 10 $\mu g/100\ cm^2$); and
- 2 liquid samples from the floor drain (PCBs detected in both samples).

1.2 REPORT OBJECTIVES

This report provides a description of the project activities as they were performed in accordance with the PCB Remediation Plan dated October 30, 2007 and EPA's Approval for Cleanup and Disposal of PCB Remediation Waste under 40 CFR 761.61(a) dated November 19, 2007 (provided in Appendix A). The required notifications and certifications per the Approval were submitted to EPA on November 30 and December 3, 2007. This closure report is being submitted to the meet the requirements pursuant to Recordkeeping and Reporting Condition 19 as it is described in EPA's November 19, 2007 Approval, granted under 40 CFR Part 761.61(a).

2. REMEDIATION AND VERIFICATION METHODS

The PCB remediation activities commenced on December 12, 2007 and were completed on February 6, 2008. An overview of the remediation and verification sampling methods is presented in the following sections. Photographs of the activities are presented in Appendix B.

2.1 REMEDIATION METHODS

The clean-up activities were conducted consistent with the Remediation Plan and EPA's Approval of the plan under 40 CFR 761.61(a). The applicable cleanup level for residual PCBs was $\leq$ 1 ppm for concrete (floor and drain sump) and $\leq$ 10 ug/100 cm^2 for non-porous surfaces (walls and drain pipe).

Due to the relatively low concentrations of PCBs, initial decontamination of both porous (concrete) and non-porous (metal) surfaces in excess of the clean-up levels was conducted by chemical washing. Limited concrete floor removal using a jackhammer was then conducted based on verification sample results.

The remediation activities included the following:

- Cleaning of the floor drain pipe and sump followed by inspection, verification, and abandonment;
- Decontamination (via chemical washing) of metal surfaces (1,800 square feet) impacted by PCBs (decontamination to $\leq$ 10 ug/100 cm^2 total PCBs);
- Decontamination of the concrete floor (360 square feet) impacted by PCBs (decontamination standard of $\leq$ 1 ppm total PCBs);
- Physical removal of 244 square feet of the concrete floor to a depth of 1-inch impacted by PCBs over the clean up level;
- Collection of verification samples for analyses; and
- Restoration.

Analytical data generated during remediation activities were validated by Data Check, Inc. of New Durham, New Hampshire. Results of the data validation indicated that all data were useable for the intended purposes. Total PCB concentrations for some of the samples were qualified "J" due to exceeding the relative percent difference (RPD) requirements between the column results. A summary of the data validation is provided in Appendix C.

2.1.1 Site Preparation and Controls

Prior to initiating the remediation activities, the following site controls were implemented:

- A Health & Safety Plan was developed specific to the work activities. All activities conducted followed applicable Federal and State regulations, including but not limited to OSHA regulations, respiratory protection, ladder/scaffolding safety, personal protective equipment (PPE), etc.
- Access to the Ion Source Room was limited through the lower hallway door and the upper door using a ladder and doors were locked throughout the duration of work to prevent unauthorized entry to the project work area.
- Both access points were covered with poly sheeting to prevent any cleaning materials from exiting the room.

- Within the work area, access to the upper portions of the metal walls was through the use of ladders.
- Access into the sump was limited through the use of the spray nozzles and vacuums.
- Prior to concrete removal activities which occurred after the chemical washing, a polyethylene containment was erected around the area and similar sheeting was used to cover the walls. In addition, the previously decontaminated areas of the concrete floor were subsequently also covered with polyethylene sheeting to prevent re-contamination and the entire work zone was placed under negative air pressure with a HEPA filtered exhaust fan to the outdoors.

2.1.2 Floor Drain Cleaning and Abandonment

On August 2, 2007, two liquid samples were collected from the floor drain located within the recessed floor portion of the room. The floor drain discharges directly to the sump located outside of the room. One sample was collected from the standing water in the drain without any disturbance and the second sample was collected from the liquid in the drain following disturbance by stirring (e.g., sample contained sediments and particulates). Aroclor 1254 was detected in both samples at concentrations of 0.7 µg/L and 81.3 µg/L, respectively. Based on these results, the floor drain and associated sump were remediated as described below.

On December 14, 2007, the contents of the floor drain, piping, and sump were removed by pumping all free standing liquid from these areas. The drain pipe was then cleaned and washed with a detergent water mix by using a high pressure power washer designed to deliver multiple pressurized water streams to the interior of the pipe. Two passes through the drain line using two different nozzle configurations were completed to achieve 360-degree cleaning of the pipe.

Following cleaning, wipe samples (WP-1 and WP-2) were collected from each end of the drain pipe. Verification sampling of the drain pipe was conducted following the standard wipe test methods defined in 40 CFR 761.123. The locations of the wipe samples are depicted on Figure 2.

The sump was cleaned using a high pressure power washer to remove all loose material from the walls and bottom of the sump. A vac-truck was used to remove the liquid generated during cleaning. All liquids generated during decontamination were transported off-site to the United Oil Recovery facility in Meriden, Connecticut for treatment.

Prior to entry into the sump for verification sampling, precautions were taken to remove any hazards. All free standing water was removed, electrical power to the sump pump was disconnected at the breaker panel located adjacent to the sump (the breaker panel was monitored by Woodard & Curran personnel throughout the duration of sump entry), and atmospheric monitoring for oxygen, carbon monoxide, hydrogen sulfide, and explosive gases was conducted prior to and during entry.

Verification sampling of the three foot square concrete sump was conducted by collecting one concrete sample (CC-01) from the sump floor directly beneath the drain pipe that flows into the sump. The concrete sample was collected using hand tools in accordance with EPA's Draft Standard Operating Procedure for Sampling Concrete in the Field – December 1997. The location of concrete sample CC-01 is depicted on Figure 2.

Verification samples were transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. Analytical results are presented on Table 2-1 and 2-2.

A summary of the results is presented in the following table:

Drain Pipe and Sump Verification Sampling Results

Sample ID	Sample Location	Clean Up Goal	Total PCBs
WP-1	Drain Line Outlet (sump in-flow)	≤ 10 ug/100 cm^2	4.5 µg/100 cm^2
WP-2	Drain Line Inlet	≤ 10 ug/100 cm^2	3.6 µg/100 cm^2
CC-01	Sump Bottom	≤ 1 ppm	0.508 mg/kg

ug/100 cm^2= micrograms per 100 square centimeters
mg/kg= milligram per kilogram

Analytical results from the wipe samples indicated that the concentrations of total PCBs in the drain pipe were below the clean up goal of ≤ 10 ug/100 cm^2. Results from the concrete sample collected beneath the drain pipe that flows into the sump indicated that the concentrations of PCBs in concrete were below the clean up goal of 1 ppm. The complete laboratory analytical reports are included in Appendix D.

After remedial activities on the drain pipe and sump were complete, a pipe inspection was performed on December 20, 2007 by Yale personnel. The inspection was performed to visually check the pipe and to confirm construction details. The pipe inspection was performed from both ends of the drain line using a Ridgid Brand Video Plumbing Snake (snake). The construction of the drain line was confirmed to be 3-inch steel piping. No breaks, perforations in the pipe wall, or evidence of sediments were observed in the drain line. The inspection did identify two additional active drain pipes that combine with the Ion Source Room drain line to make up a common branch line prior to entering the sump. Based on a review of historic piping diagrams, these drain pipes are from floor drains in areas outside the Ion Source Room. The three drain lines are at higher elevations than the main branch line preventing backflow conditions. Based on the presence of these additional drain lines, the drain line was not filled with concrete slurry as per Section 3.2 of the Remediation Plan. As part of restoration activities, the Ion Source Room floor drain will be plugged and permanently sealed prior to pouring of the new concrete floor.

Based on the results of the verification sampling and the piping inspection, no additional remediation is warranted in the floor drain piping or sump.

2.1.3 Metal Walls Decontamination

On July 23 and October 18, 2007 surface wipe samples were collected from the lower portions of the metal walls (16 samples) and the metal ceiling (3 samples), respectively. Sampling was conducted following the standard wipe test methods defined in 40 CFR 761.123. Samples from the metal walls were generally collected at distances ranging from 2.5 to 12 feet above the floor surface. Due to access limitations to the room and the height of the ceiling above the floor (24 feet), the ceiling sampling locations were accessed by cutting holes in the ceiling from the room above and then collecting the surface wipe samples by accessing the points through these holes. Low concentrations of PCBs were detected in each of the wall samples with 2 of the 16 samples detecting PCBs at concentrations > 10

ug/100 cm^2. No PCBs were detected in the ceiling samples. Based on these results, the metal walls were remediated as described below.

On December 12 and 13, 2007, approximately 1,800 square feet of metal walls were decontaminated by chemical washing using the chemical extraction surfactant *PipeX-MetalX* distributed by Chemical Solutions International. Product technical data and application procedures are provided in Appendix E. Following initial application, the surfactant was brushed by hand to enhance cleaning. Following a 15 minute dwell time, the surfactant was removed using a high pressure power washer. All liquids generated during decontamination were transferred to a vac-truck and transported off-site to the United Oil Recovery facility in Meriden, Connecticut for treatment.

On December 17, 2007, verification sampling was conducted in accordance with the requirements of 40 CFR 761.300 (Subpart P). Based on a one square meter grid area and Subpart P methods, 48 grid areas were marked out on each wall. Wipe samples were collected from at least 10% of the grid areas (6 samples per wall). The specific grids sampled were selected using a random number generator. The location of the wipe sample within each grid was selected using the procedures outlined in 40 CFR 761.306 (random selection of halves). A total of 24 wipe samples were collected. The locations of the wipe samples are shown on Figure 3. Verification samples were transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. Analytical results area summarized on Table 2-1. The complete analytical laboratory report is included in Appendix D.

In addition to the primary samples indicated above, 1 duplicate sample and 1 field equipment blank were collected and submitted to the laboratory as part of the QA/QC procedures associated with the sample collection procedures.

Analytical results indicated that the total concentrations of PCBs in wipe samples ranged from 0.7 to 4.0 ug/100 cm^2. Total PCBs in all wipe samples were below the clean up goal of $\leq$ 10 ug/100 cm^2. Based on these results, no additional remediation is warranted on the metal walls.

2.1.4 Concrete Floor Decontamination

On July 20, 2007, 10 bulk samples were collected from the concrete floor at locations spatially distributed throughout the room. Analytical results indicated that the concentrations of total PCBs ranged from 0.28 to 5.25 ppm. The concentration of total PCBs exceeded 1 ppm in 7 of the 10 samples collected. Aroclor 1254 was the only Aroclor detected in the samples. Based on the analytical results and the distribution of PCBs, the entire concrete floor was designated for remediation. A description of the remediation activities is provided below.

On December 13, 2007, the concrete floor (approximately 360 square feet) was decontaminated by chemical washing using a chemical extraction surfactant (*Less Than 10* distributed by Chemical Solutions International) utilized specifically for PCB removal from surfaces. Following initial application, the surfactant was brushed by hand to enhance cleaning. Following a 15 minute dwell time, the surfactant was removed using a high pressure power washer. Product technical data and application procedures are provided in Appendix E. All liquids generated during decontamination were transferred to a vac-truck and transported off-site to the United Oil Recovery facility in Meriden, Connecticut for treatment.

Following the decontamination, post-remediation samples were collected following 40 CFR 761.280 (Subpart O) procedures. The 1.5 meter sampling grid is depicted on Figure 2. Consistent with Subpart O, a non-point source area compositing procedure based on a 18 by 20 foot concrete floor was developed

and is presented on Figure 2. Given the dimensions of the floor, 24 individual concrete samples were collected (1 per each grid intersection) and composited into 5 samples for laboratory analyses.

All samples were transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. In addition to the primary samples indicated above, 1 duplicate sample and 1 field equipment blank were collected and submitted to the laboratory as part of the QA/QC procedures associated with the sample collection procedures.

Analytical results indicated that the concentrations of total PCBs ranged from 0.399 to 4.46 mg/kg. Total PCB concentrations exceeded the clean up goal of 1 ppm in samples collected from three adjacent areas, as depicted on Figure 2. A summary of analytical data is presented on Table 2-2. A copy of the complete analytical laboratory report is included in Appendix D.

Based on the results of the verification sampling, additional remediation was conducted on those portions of the floor with total PCB concentrations exceeding 1 ppm. Between January 17 and 22, 2008, additional remedial actions, consisting of concrete removal were performed. Prior to commencing remedial activities, a polyethylene containment was erected around the area and similar sheeting was used to cover the walls, as well as the floor areas previously decontaminated to <1 ppm. As described previously, the entire work area was then placed under negative air pressure with a HEPA filtered exhaust fan to the outdoors. Concrete was removed from the designated areas using a jack hammer to an approximate depth of 1-inch. All concrete removed was shipped off-site to the United Oil Recovery's facility in Bridgeport, Connecticut and then transported for final disposal at the Waste Management American Landfill in Waynesburg, Ohio. A total of 220 gallons of liquid was generated during concrete removal activities. The liquids generated were containerized in four 55-gallon drums and transported off-site to the United Recycling facility in Bridgeport, Connecticut for treatment.

Following completion of the concrete removal, post-remediation samples were collected following the procedures outlined above, except at an offset grid. A total of 20 individual concrete samples were collected (1 per each grid intersection) and composited into 3 samples for laboratory analyses. The off-set sampling grid and sample locations are shown on Figure 4.

As depicted on Figure 4, analytical results from the verification samples indicate that the concentrations of total PCBs in all three of the samples were below the minimum laboratory reporting limits for all Aroclor fractions. As a result, the concentration of PCBs in concrete was below the clean up goal of 1 ppm and thus no further activities are warranted.

2.1.5 Waste Storage and Disposal

Material generated during remediation activities were managed in accordance with the Approval under 40 CFR 761. A total of thirteen 55-gallon drums of solids generated were transported off-site and disposed of at Waste Management American Landfill in Waynesburg, Ohio. This material was sampled in accordance with 40 CFR 761.61 Subpart O requirements and determined to be <50 ppm PCBs. As such, the material was disposed consistent with 40 CFR 761.61(a)(5)(V)(A). A total of 868 gallons of liquid generated from decontamination of the floor, walls, and pipe were shipped to United Oil Recovery's Meriden, CT or Bridgeport, CT facility for treatment. Copies of the waste manifests and certificates of disposal are provided in Appendix F.

2.1.6 Site Restoration

In accordance with Section 3.6 of the plan, a new concrete floor will be installed within the Ion Source Room. The floor will be approximately 2 feet thick and be placed over the existing floor. Prior to pouring the new floor, the floor drain will be plugged and permanently sealed. The drain line, originally scheduled to be filled using concrete slurry will remain open due to the presence of two active drain lines from floor drains outside the Ion Source Room.

Table 2-1
Summary of Wipe Sample Analytical Results

Ion Source Room
Yale University
New Have, CT.

Sample ID	Sample Type	Depth (inches)	Sample Description	Date	Aroclor 1254	Aroclor 1260	Total PCBs (µg/100cm^2)
WP-1	Wipe	Surface	Sump Inlet pipe	12/17/2007	2.9	1.6	4.5
WP-2	Wipe	Surface	Drain Inlet Pipe	12/17/2007	1.4	2.2	3.6
WP-3	Wipe	Surface	West Wall	12/17/2007	1.5	1.8	3.3 (J)
WP-4	Wipe	Surface	West Wall	12/17/2007	1.4	2.1	3.5 (J)
WP-5	Wipe	Surface	West Wall	12/17/2007	0.9	1.2	2.1 (J)
WP-6	Wipe	Surface	West Wall	12/17/2007	1.2	1.3	2.5 (J)
WP-7	Wipe	Surface	West Wall	12/17/2007	1.0	1.2	2.2
WP-8	Wipe	Surface	West Wall	12/17/2007	0.8	0.8	1.6 (J)
WP-9	Wipe	Surface	South Wall	12/17/2007	0.3 (J)	0.4 (J)	0.7 (J)
WP-10	Wipe	Surface	South Wall	12/17/2007	0.7	0.9	1.6
WP-11	Wipe	Surface	South Wall	12/17/2007	1.5	1.3	2.8 (J)
WP-12	Wipe	Surface	South Wall	12/17/2007	1.5	1.9	3.4 (J)
WP-13	Wipe	Surface	South Wall	12/17/2007	1.7	1.8	3.5 (J)
WP-14	Wipe	Surface	South Wall	12/17/2007	1.5	1.4	2.9
WP-15	Wipe	Surface	East Wall	12/17/2007	1.1	1.2	2.3 (J)
WP-16	Wipe	Surface	East Wall	12/17/2007	1.1	1.6	2.7 (J)
WP-17	Wipe	Surface	East Wall	12/17/2007	0.8	1.1	1.9 (J)
WP-18	Wipe	Surface	East Wall	12/17/2007	1.9	2.1	4.0 (J)
WP-19	Wipe	Surface	East Wall	12/17/2007	1.1	1.7	2.8 (J)
WP-20	Wipe	Surface	East Wall	12/17/2007	0.8	1.5	2.3
WP-22	Wipe	Surface	North Wall	12/17/2007	1.2	1.7	2.9 (J)
WP-23	Wipe	Surface	North Wall	12/17/2007	0.9	1.6	2.5 (J)
WP-24	Wipe	Surface	North Wall	12/17/2007	1.2	1.9	3.1 (J)
WP-25	Wipe	Surface	North Wall	12/17/2007	1.0	1.5	2.5 (J)
WP-26	Wipe	Surface	North Wall	12/17/2007	1.9	2.1	4.0
WP-27	Wipe	Surface	North Wall	12/17/2007	1.7	2.1	3.8

Notes:
All samples extracted folowing USEPA Method 3540C and analyzed for PCBs following USEPA Method 8082.
(J) = Data qualified due to analtyical results below the quantitation limit or to Relative Percent Difference criteria outside of acceptance criteria.
µg/100cm2 = micrograms per 100 square centimeters.

Table 2-2
Summary of Concrete Sample Analytical Results

Ion Source Room
Yale University
New Haven, CT.

Sample ID	Sample Type	Depth (inches)	Sample Description	Date	Aroclor 1254	Aroclor 1260	Total PCBs	Units
Initial Verification Sampling Round								
CC-01	Concrete	0 - 0.5	Sump	12/17/2007	0.287	0.221	0.508	mg/kg
CC-02	Concrete	0 - 0.5	Area 1	12/17/2007	1.050	1.520	2.570	mg/kg
CC-03	Concrete	0 - 0.5	Area 1 Duplicate	12/17/2007	1.230	1.310	2.540	mg/kg
CC-04	Concrete	0 - 0.5	Area 2	12/17/2007	1.070	0.577	1.647 (J)	mg/kg
CC-05	Concrete	0 - 0.5	Area 3	12/17/2007	0.278	0.121 (J)	0.399 (J)	mg/kg
CC-06	Concrete	0 - 0.5	Area 5	12/17/2007	0.563	0.237 (J)	0.800 (J)	mg/kg
CC-07	Concrete	0 - 0.5	Area 4	12/17/2007	2.920	1.540	4.460 (J)	mg/kg
Final Verification Sampling Round								
CC-01A	Concrete	0 - 0.5	Area 1	1/25/2008	<0.033	<0.033	<0.033	mg/kg
CC-02A	Concrete	0 - 0.5	Area 2	1/25/2008	<0.036	<0.036	<0.036	mg/kg
CC-03A	Concrete	0 - 0.5	Area 3	1/25/2008	<0.033	<0.033	<0.033	mg/kg

All samples extracted following USEPA Method 3540C and analyzed for PCBs following UEPA Method 8082.
(J) = Data qualified due to analtyical results below the quantitation limit or to Relative Percent Difference criteria outside of acceptance criteria.
< = Less than the laboratory minimum reporting limit as indicated.
mg/kg = milligrams per kilogram

3. SUMMARY AND CONCLUSIONS

PCB remediation activities were performed at the Wright Nuclear Structure Laboratory Building on the Yale University campus in New Haven, Connecticut. Removal and decontamination of PCB affected media was conducted in the Ion Source Room of the WNSL from December 12, 2007 through February 6, 2008. These activities were completed in accordance with the October 30, 2007 PCB Remediation Plan and the EPA's Approval for Cleanup and Disposal of PCB Remediation Waste under 40 CFR 761.61(a) dated November 19, 2007.

Remediation activities were performed by United Industrial Service, Inc., with engineering oversight and verification sampling conducted by Woodard & Curran. A total of 13 drums of PCB-contaminated concrete and sludge material were removed and shipped off-site for disposal at the Waste Management American Landfill in Waynesburg, Ohio. A total of 868 gallons of liquid generated from decontamination of the floor, walls, and pipe were shipped to United Oil Recovery's Meriden, CT or Bridgeport, CT facility for treatment.

Remedial activities conducted are summarized as follows:

- Approximately 360 square feet of porous surface (concrete flooring) were decontaminated by chemical washing using a chemical extraction surfactant;
- Approximately 244 square feet of concrete were remediated through the removal of 1-inch of impacted concrete;
- Approximately 1,800 square feet of metal walls were decontaminated by chemical washing using a chemical extraction surfactant; and
- Ion source room drain line was cleaned and inspected.

Verification sampling was conducted after decontamination and remediation activities. Results indicate that all non-porous surfaces (metal walls and drain pipe) meet the clean up goal of $\leq$ 10 ug/100 cm^2. Analytical results from concrete samples collected from the sump and the concrete floor indicated that the concentrations of PCBs in all porous surfaces meet the clean up standard of < 1 ppm.

Final room restoration will include a new concrete floor poured over the existing floor to a depth of approximately 2 feet. Prior to pouring the new floor, the floor drain will be plugged and permanently sealed.

Based on the results of the remedial and verification activities, no additional remediation is warranted.

WOODARD & CURRAN
35 New England Business Center
Andover, MA 01810
COMMITMENT & INTEGRITY DRIVE RESULTS

YALE UNIVERSITY
NEW HAVEN, CONNECTICUT

SCALE: AS NOTED	JOB NO.: 210811
DATE: FEBRUARY 2008	FILE: Figure 1.cnv

SITE LOCUS

DES.BY:	
DR.BY: EVR	
CK.BY: GJF	
1	

WOODARD & CURRAN
COMMITMENT & INTEGRITY DRIVE RESULTS
35 NEW ENGLAND BUSINESS CENTER
ANDOVER, MASSACHUSETTS 01810
866.702.6371 | www.woodardcurran.com

VERIFICATION SAMPLE LOCATIONS (INITIAL DECONTAMINATION)

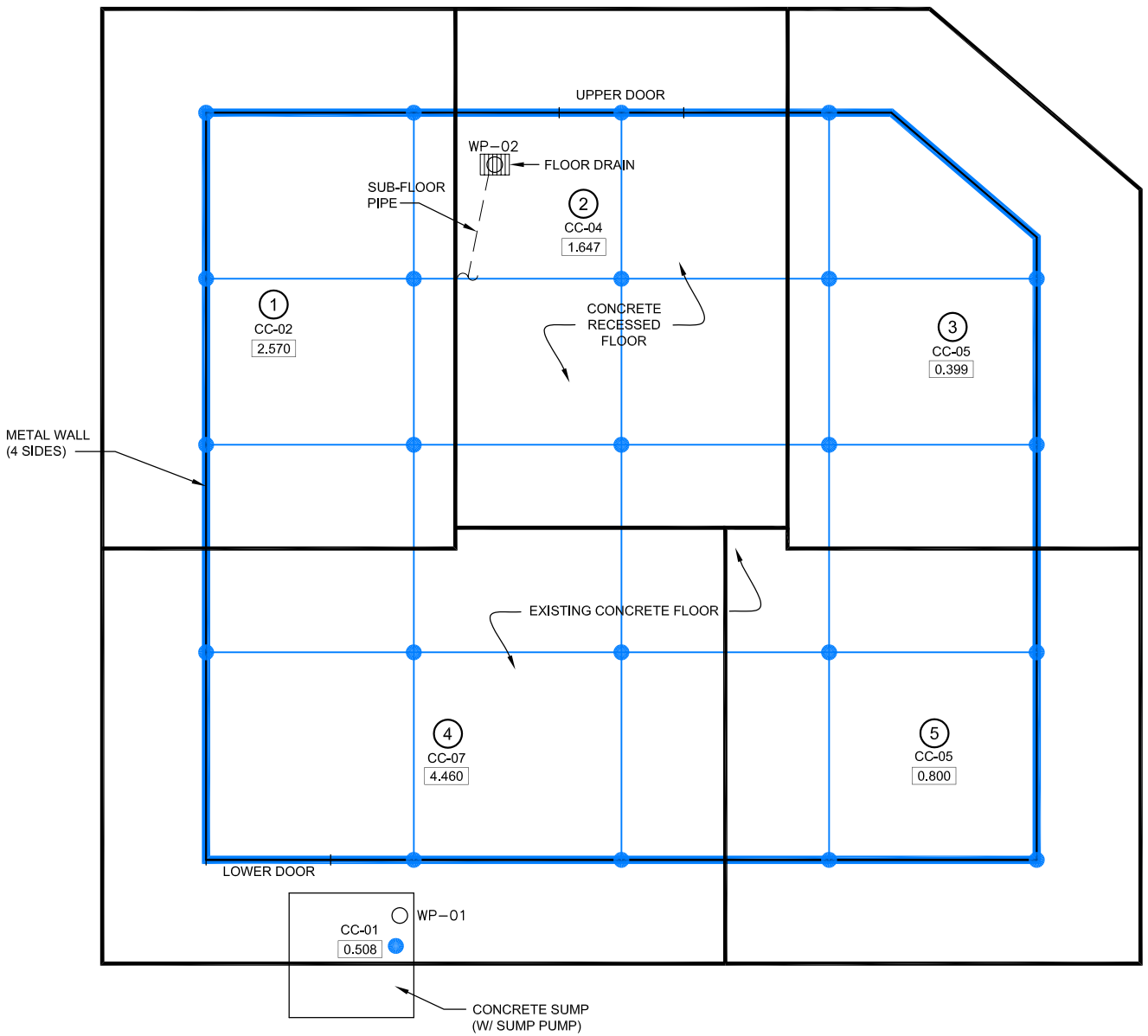
DESIGNED BY: GJF
DRAWN BY: EVR
CHECKED BY:
Figure 2.dwg

ION SOURCE ROOM - WNSL

YALE UNIVERSITY
NEW HAVEN, CONNECTICUT

FIGURE 2

JOB NO: 210811
DATE: FEBRUARY 2008
SCALE: AS NOTED

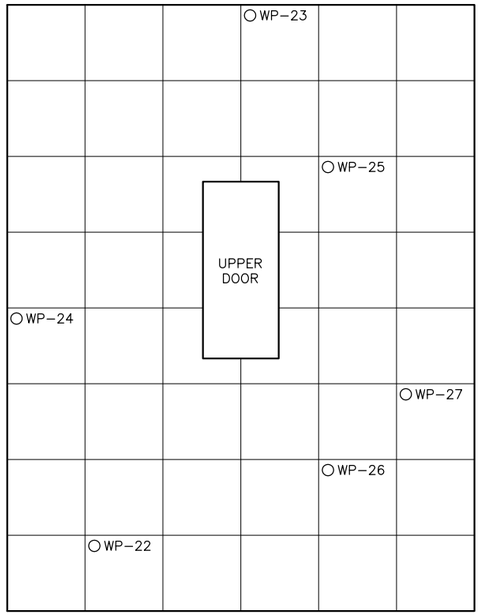


LEGEND

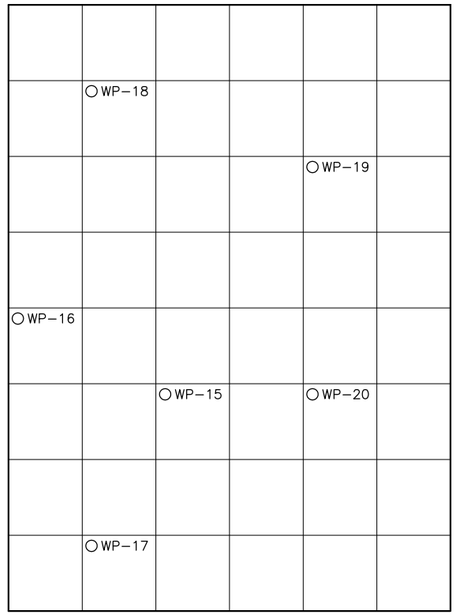
- 1.5 METER VERIFICATION SAMPLING GRID (OFFSET 1 METER FROM ORIGINAL SAMPLE GRID)
- 3 — COMPOSITE GROUPING OF INDIVIDUAL SAMPLE LOCATIONS. BLACK REPRESENTS AREA OF INFERENCE.
- POST-REMOVAL VERIFICATION SAMPLE LOCATION
- FLOOR AREA TO BE REMEDIATED
- 0.399 — TOTAL PCB CONCENTRATION IN MILLIGRAMS PER KILOGRAM
- WP-01 ○ — VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER

0 4 8

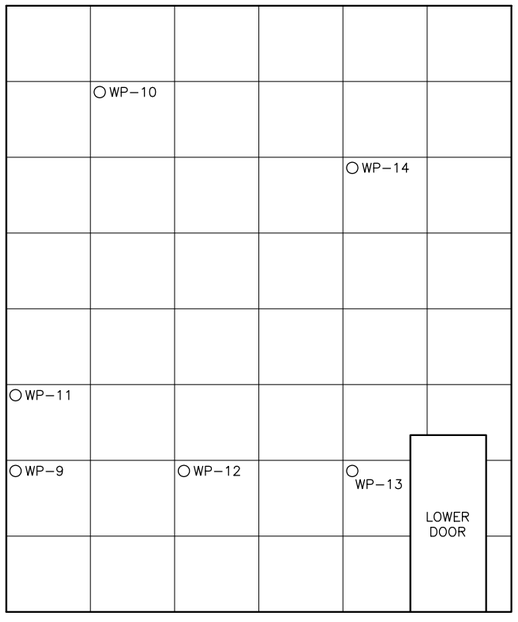
APPROX. SCALE IN FEET



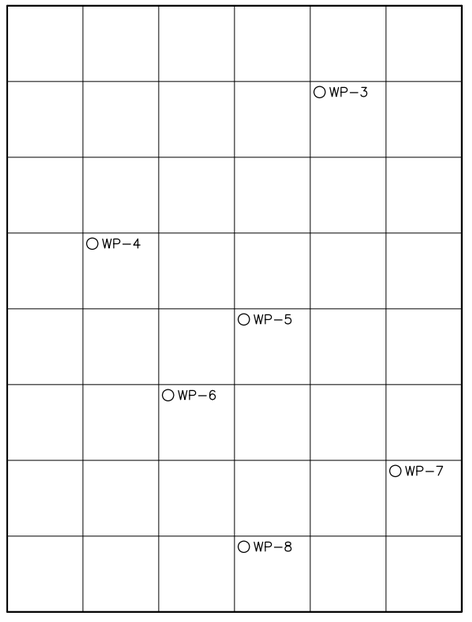
WEST WALL



NORTH WALL



EAST WALL



SOUTH WALL

LEGEND

WP–17 ○ WIPE SAMPLE LOCATION AND IDENTIFIER

0 6 12

SCALE IN FEET

35 NEW ENGLAND BUSINESS CENTER
ANDOVER, MASSACHUSETTS 01810
866.702.6371 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

WOODARD & CURRAN

DISTRIBUTION OF VERIFICATION WIPE SAMPLES ON METAL WALLS

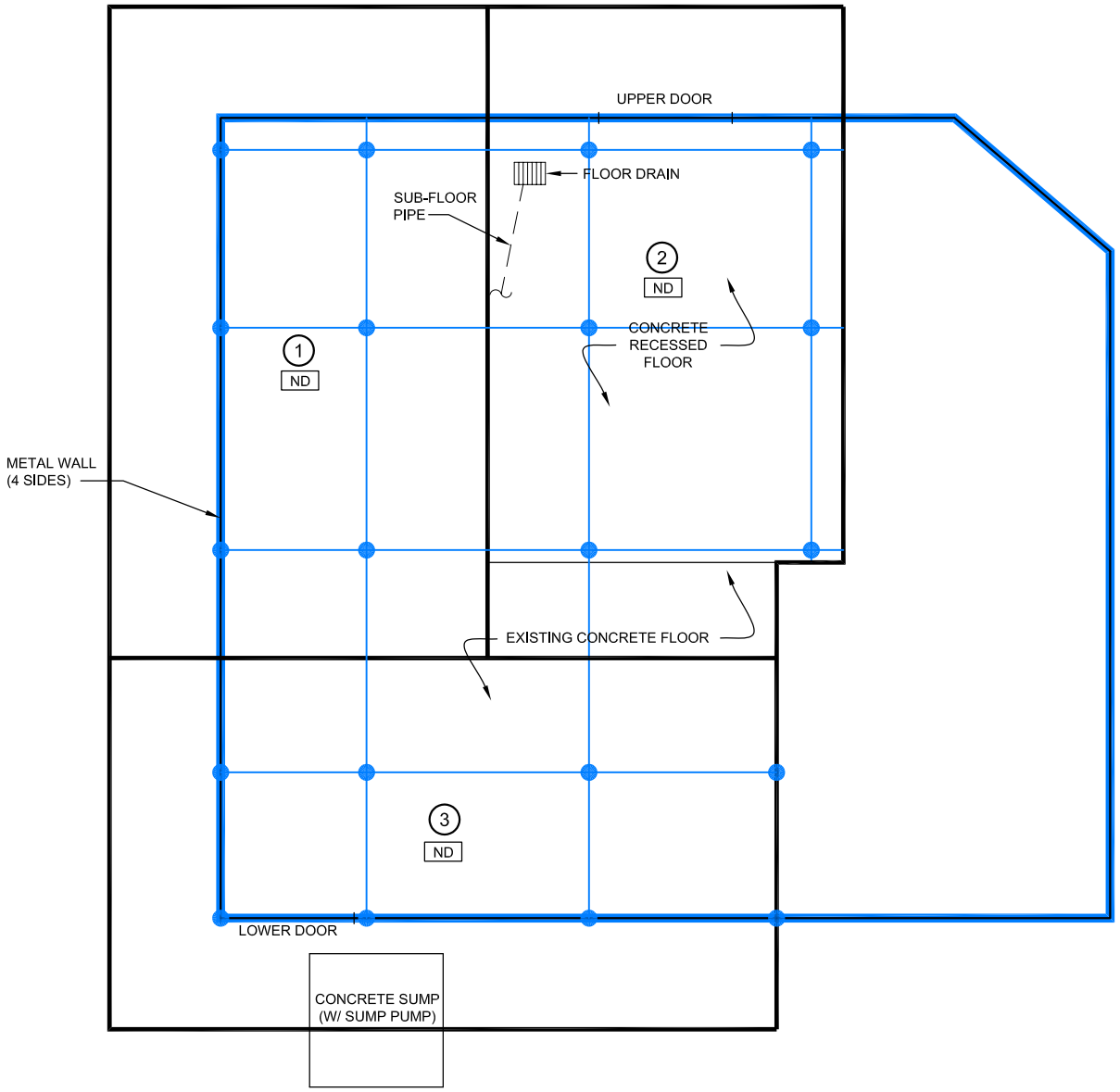
DESIGNED BY: GJF
DRAWN BY: EVR
CHECKED BY:
Figure 3.dwg

ION SOURCE ROOM – WNSL

YALE UNIVERSITY
NEW HAVEN, CONNECTICUT

JOB NO: 210811
DATE: FEBRUARY 2008
SCALE: AS NOTED

FIGURE 3



LEGEND

1.5 METER VERIFICATION SAMPLING GRID (OFFSET 1 METER FROM ORIGINAL SAMPLE GRID)

3 COMPOSITE GROUPING OF INDIVIDUAL SAMPLE LOCATIONS. BLACK REPRESENTS AREA OF INFERENCE.

POST-REMOVAL VERIFICATION SAMPLE

FLOOR AREA TO BE REMEDIATED

ND TOTAL PCB CONCENTRATION

ND = TOTAL PCB CONCENTRATIONS BELOW MINIMUM LABORATORY REPORTING LIMITS

0 4 8

APPROX. SCALE IN FEET

WOODARD & CURRAN
COMMITMENT & INTEGRITY DRIVE RESULTS
35 NEW ENGLAND BUSINESS CENTER
ANDOVER, MASSACHUSETTS 01810
866.702.6371 | www.woodardcurran.com

FINAL REMEDIATION
CONCRETE FLOOR VERIFICATION
SAMPLE RESULTS

DESIGNED BY:
DRAWN BY: EVR
CHECKED BY:
Figure 4.dwg

ION SOURCE ROOM – WNSL

YALE UNIVERSITY
NEW HAVEN, CONNECTICUT

FIGURE 4

JOB NO: 21081
DATE: FEBRUARY 2008
SCALE: AS NOTED

APPENDIX A: USEPA APPROVAL LETTER

FILE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 CONGRESS STREET, SUITE 1100, BOSTON, MASSACHUSETTS 02114-2023

Rec'd: OEHS
11/26/07 1PM

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

NOV 19 2007

Robert Klein, Deputy Director
Yale University
Office of Environmental Health & Safety
135 College Street
New Haven, Connecticut 06510

Re: Approval for Cleanup and Disposal of *PCB Remediation Waste* under 40 CFR § 761.61(a)

Dear Mr. Klein:

This is in response to your application for approval of a proposed plan to address PCB-contaminated materials located in the Ion Source Room of the Wright Nuclear Structure Laboratory Building (the Site)[1] located on the Yale University (Yale) campus. The Site contains PCB-contaminated materials that exceed the allowable PCB levels under the federal PCB regulations at 40 CFR § 761.61. Yale has requested an approval to decontaminate and/or remove PCB-contaminated concrete under 40 CFR § 761.61(b) and to decontaminate *non-porous surfaces* under 40 CFR § 761.79(h).

The proposed cleanup and disposal of the PCB-contaminated materials from the Site meet the self-implementing notification requirements under 40 CFR § 761.61(a)(3). As such, EPA may approve Yale's Application under § 761.61(a). Yale may proceed with the PCB cleanup and off-site disposal under 40 CFR § 761.61(a) and its Application, subject to this Approval and the conditions of Attachment 1.

This Approval only addresses cleanup and disposal of the *PCB remediation waste* identified in the Application, specifically PCB-contaminated concrete and *non-porous surfaces* located in and/or leading from the Ion Source Room.

---

[1] This information was submitted by Woodard & Curran on your behalf to satisfy the notification requirement under 40 CFR § 761.61(a), § 761.61(b), and § 761.79(h). Information was provided dated October 30, 2007; November 15, 2007 (via e-mail); and November 19, 2007. These submittals will be referred to as the "Application."

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator
United States Environmental Protection Agency
1 Congress Street, Suite 1100 - CPT
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall not consider this remediation complete until it has received all submittals required under this Approval.

Sincerely,

Robert W. Varney
Regional Administrator

cc: J. Hamel, Woodard & Curran
L. Saliby, CTDEP

Attachment 1

ATTACHMENT 1: PCB CLEANUP AND DISPOSAL APPROVAL CONDITIONS
YALE UNIVERSITY - WRIGHT NUCLEAR STRUCTURE LABORATORY BUILDING
ION SOURCE ROOM
NEW HAVEN, CONNECTICUT

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB remediation waste* at the Site and identified in the Application, specifically the PCB-contaminated concrete and *non-porous surfaces* located in and/or leading from the Ion Source Room in the Wright Nuclear Structure Laboratory Building.

2. Yale University (Yale) shall conduct on-site activities in accordance with the conditions of this Approval and with the Application.

3. This Approval may be revoked if the EPA does not receive written notification from Yale of its acceptance of the conditions of this Approval within 10 business days of receipt.

4. In the event that the activities described in the Application differ from the conditions specified in this Approval, the conditions of this Approval shall govern.

5. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.

6. Yale must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, Yale shall contact EPA within 24 hours for direction on sampling and disposal requirements.

7. Yale is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time Yale has or receives information indicating that Yale or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.

8. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by Yale are authorized to conduct the activities set forth in the Application. Yale is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.

9. Yale shall notify EPA in writing of the scheduled date of commencement of on-site activities at least 3 business days prior to conducting any work under this Approval.

10. This Approval does not waive or compromise EPA's enforcement and regulatory authority, nor release Yale from any applicable requirements of federal, state or local law.

REMEDIAL and DISPOSAL CONDITIONS

11. Prior to initiating onsite work under this Approval, Yale shall submit the following information:

    a. A certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the analytical and quality assurance requirements specified in the Application and in this Approval; and,

    b. A certification signed by its selected remediation contractor, stating that the contractor has read and understands the Application, and agrees to abide by the conditions specified in this Approval.

12. The cleanup level for *PCB remediation waste* at the Site shall be less than or equal to 1 part per million ($\leq$ 1 ppm) for *porous surfaces* and $\leq$ 10 $\mu g/100$ cm^2 for *non-porous surfaces.*

    a. *Porous surface* samples (i.e. concrete) shall be collected according to EPA's *draft* Standard Operating Procedure For Sampling Concrete in the Field, dated 12/01/97 at a maximum depth interval of 0.5 inches and in accordance with the frequency requirements at Subpart O.

    b. *Non-porous surfaces* (i.e. metal) shall be sampled in accordance with Subpart P.

    c. Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846 for solid matrices, including wipes, and Method 3500B/3510C of SW-846 for aqueous matrices; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q.

13. All PCB waste (regardless of concentration) generated as a result of the activities described in the Application, excluding any decontaminated materials, shall be marked in accordance with § 761.40; stored in a manner prescribed in § 761.65; and, disposed of in accordance with 40 CFR § 761.61(a)(5), unless otherwise specified below:

    a. Non-liquid cleaning materials, such as PPE and similar materials resulting from decontamination, shall be disposed of in accordance with § 761.79(g)(6).

b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).

c. PCB-contaminated water generated during decontamination or dewatering shall be decontaminated in accordance with § 761.79(b)(1) or disposed of under § 761.70.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

14. Yale shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by Yale to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.

15. Any proposed modification(s) in the plan, specifications, or information in the Application must be submitted to EPA no less than 14 calendar days prior to the proposed implementation of the change. Such proposed modifications will be subject to the procedures of 40 CFR §761.61(a)(3)(ii).

16. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

17. Any misrepresentation or omission of any material fact in the Application or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

RECORDKEEPING AND REPORTING CONDITIONS

18. Yale shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the decontamination and the analytical sampling shall be established and maintained by Yale until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection by authorized representatives of EPA.

19. Yale shall submit a final report to EPA within 60 days of completion of the activities authorized under this Approval. At a minimum, this final report shall include: a narrative of the remedial activities; characterization and confirmation sampling analytical results (if applicable); copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of; the size of the remediation area(s); copies of manifests and/or bills of lading; and copies of certificates of disposal or similar certifications issued by the disposer.

20. Required submittals shall be mailed to:

    Kimberly N. Tisa, PCB Coordinator
    United States Environmental Protection Agency
    1 Congress Street, Suite 1100 - CPT
    Boston, Massachusetts 02114-2023
    Telephone: (617) 918-1527
    Facsimile: (617) 918-0527

21. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self disclosure or penalty policies.

****

END OF ATTACHMENT 1

APPENDIX B: PHOTOGRAPHS

Appendix B
Photographs

Ion Source Room Floor Drain

Drain Sump

Appendix B
Photographs

Metal Wall

Containment and Filter

APPENDIX C: DATA VALIDATION SUMMARY

APPENDIX C
ION SOURCE ROOM PCB - PROJECT SUMMARY

Analytics Environmental Laboratory Job Numbers: 60451 and 60655

Samples were received at 6.7 and 4.0 degrees Celsius. No qualifications will be applied.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding time. No qualifications will be applied.

All PCB surrogates met acceptance criteria with the following exceptions. The recoveries for the surrogate decachlorobiphenyl in sample EB-01 (60451-35) (19%/19%), EB-01RR (60451-35RR) (18%/18%), and EB-01 (60655-4) (24%/ok) were below acceptance limits (30%-150%) on one or both columns. The non-detected PCB results in sample EB-01 (60451-35) and EB-01RR (60451-35RR) will be estimated (UJ) due to low surrogate recoveries. No qualifications will be applied to sample EB-01 (60655-4) since only one surrogate on one column failed acceptance criteria.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied. The PCB field blanks EB-01 (60451-35), EB-01RR (60451-35RR), EB-02 (60451-36), and EB-01 (60655-4) were ND for all target analytes. No qualifications will be applied.

The PCB matrix spike/matrix spike duplicate (MS/MSD) performed on samples CC-01 (60451-28) and CC-03A (60655-3) met acceptance criteria with the following exceptions. The recoveries for PCB-1016 on column 1 in the MS (164%) and PCB-1260 on both columns in the MS (42%/24%) of sample CC-01 (60451-28) were outside of laboratory acceptance limits (65%-140%/60%-130%). Additionally, the relative percent difference (RPD) for PCB-1016 on column 1 (41.3%) and PCB-1260 on column 2 (31.4%) exceeded laboratory limits (<30%). No qualifications will be applied for PCB-1016 since this compound was not detected in sample CC-01 (60451-28). PCB-1260 in sample CC-01 (60451-28) will be qualified as estimated (J) due to low MS recoveries. The recovery for PCB-1016 on column 2 in the MSD (149%) of sample CC-03A (60655-3) was above laboratory acceptance limits (65%-140%). No qualifications will be applied since PCB-1016 was not detected in sample CC-03A (60655-3).

The PCB laboratory control samples (LCS) and/or laboratory control sample duplicates (LCSD) met acceptance criteria. No qualifications will be applied.

PCB field duplicate samples WP-20 (60451-20)/WP-21 (60451-21) and CC-02 (60451-29)/CC-03 (60451-30) met acceptance criteria. No qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria (≤25%) with the following exceptions:

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
60451-3	WP-3	1254	33.8	J
60451-4	WP-4	1254	31.6	J
60451-5	WP-5	1254	32.3	J
60451-5	WP-5	1260	28.3	J
60451-6	WP-6	1254	36.3	J
60451-8	WP-8	1254	31.5	J
60451-11	WP-11	1260	25.9	J
60451-12	WP-12	1254	34.6	J
60451-12	WP-12	1260	27.1	J
60451-13	WP-13	1254	32.8	J
60451-15	WP-15	1254	35.8	J
60451-16	WP-16	1254	32.2	J
60451-16	WP-16	1260	26.8	J

APPENDIX C
ION SOURCE ROOM PCB - PROJECT SUMMARY

Analytics Environmental Laboratory Job Numbers: 60451 and 60655

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
60451-17	WP-17	1254	28.2	J
60451-18	WP-18	1254	34.4	J
60451-19	WP-19	1254	28.8	J
60451-21	WP-21	1254	41.4	J
60451-22	WP-22	1260	27.4	J
60451-23	WP-23	1254	38.6	J
60451-23	WP-23	1260	28.8	J
60451-24	WP-24	1254	29.0	J
60451-24	WP-24	1260	27.7	J
60451-25	WP-25	1254	29.6	J
60451-25	WP-25	1260	25.2	J
60451-31	CC-04	1260	30.3	J
60451-34	CC-07	1260	36.6	J

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski: Date:
President

APPENDIX D: ANALYTICAL LABORATORY REPORTS

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

January 31, 2008

Mr. Rob Klein
Yale University Environmental Helath&
Safety
135 College Street
New Haven CT 06510

RE: Analytical Results Case Narrative
Yale Ion Source Room
Analytics # 60655

Dear Mr. Klein;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No QC deviations.

PCBs by EPA Method 8082:
The continuing calibration standards (File#'s L11503SC and L11510SC) had high recovery for Decachlorobiphenyl on column#1. Column#2 was in control for all analytes. Results were reported off column#2 without qualification.

The aqueous sample 60655-1 (EB-01) and QC extracted 01/28/08 had low recovery of surrogate Decachlorobiphenyl.. The secondary surrogate 2,4,5,6-Tetrachloro-m-xylene was in control for all samples. The laboratory control samples (L01288PWB/LD01288PWB) were in control for all PCB recoveries.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

Report Number: 60655

Revision: Rev. 0

Re: Yale ION Source Room **210811**

Enclosed are the results of the analyses on your sample(s). Samples were received on 28 January 2008 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
60655-1	01/25/08	CC-01A	EPA 8082 (PCBs only)	
60655-2	01/25/08	CC-02A	EPA 8082 (PCBs only)	
60655-3	01/25/08	CC-03A	EPA 8082 (PCBs only)	
60655-4	01/25/08	EB-01	Electronic Data Deliverable	
	01/25/08	EB-01	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Pennsylvania, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature Melanie Lalli for
Stephen L. Knollmeyer Lab. Director

Date 01/31/08

Surrogate Compound Limits

Matrix: / Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-130	70-130	EPA 8260B
Toluene-d8	70-130	70-130	
Bromofluorobenzene	70-130	70-130	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 624/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	26-86	40-130	
Herbicides			
Dichloroacetic acid (DCAA0	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 30, 2008

CLIENT SAMPLE ID

Project Name: Yale 1ON Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B01288PW
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 01/28/08
Analysis Date: 01/29/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	59	%
Decachlorobiphenyl	21 *	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: * Surrogate recovery outside control limits. Secondary surrogate is in control.

PCB Report

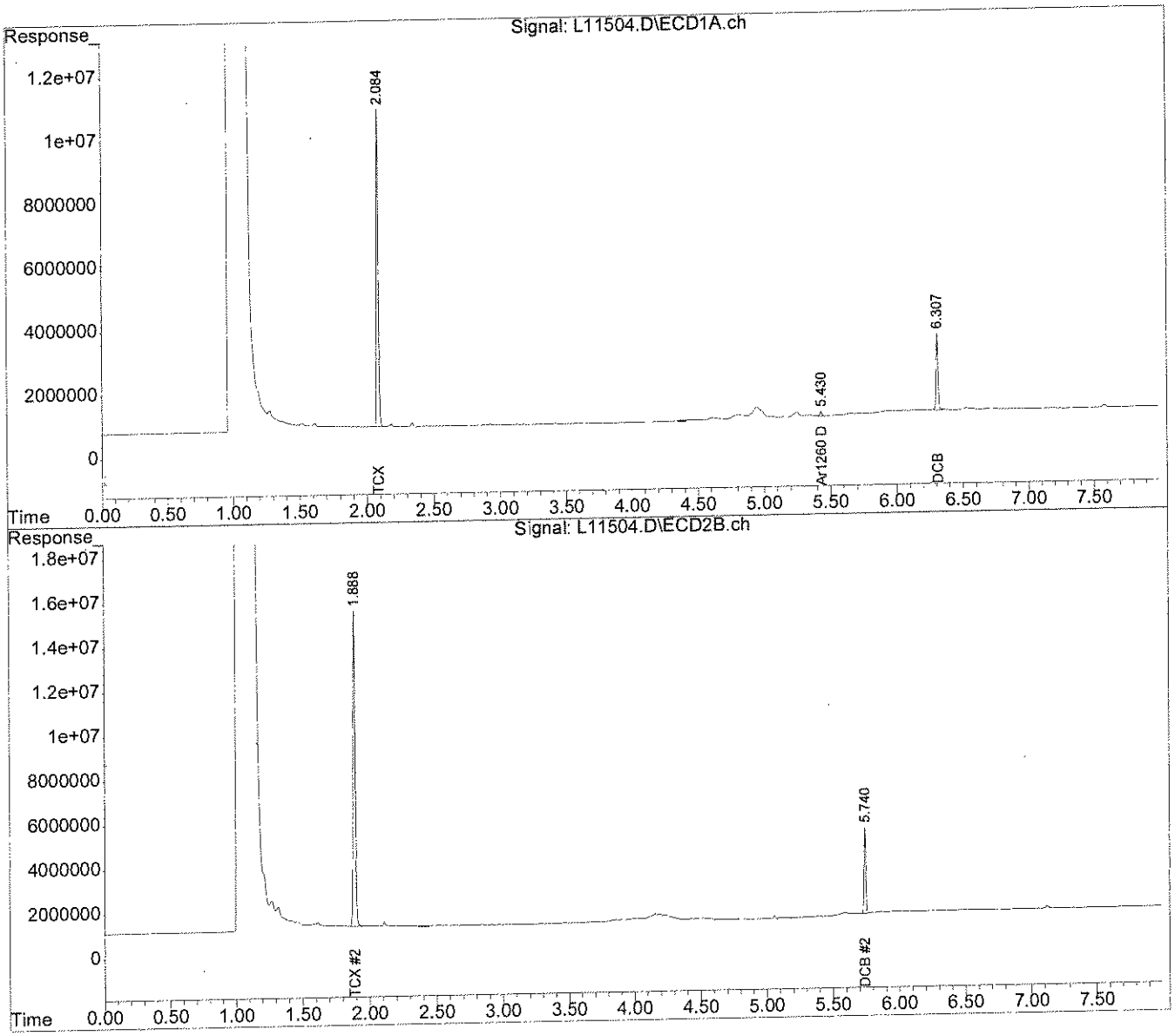
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\012908-L\
Data File : L11504.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 29 Jan 08 2:23 pm
Operator :
Sample : B01288PW
Misc :
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 29 15:12:25 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jan 11 10:27:47 2008
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 30, 2008

CLIENT SAMPLE ID

Project Name: Yale ION Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B01288PSOX
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 01/28/08
Analysis Date: 01/29/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	80	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

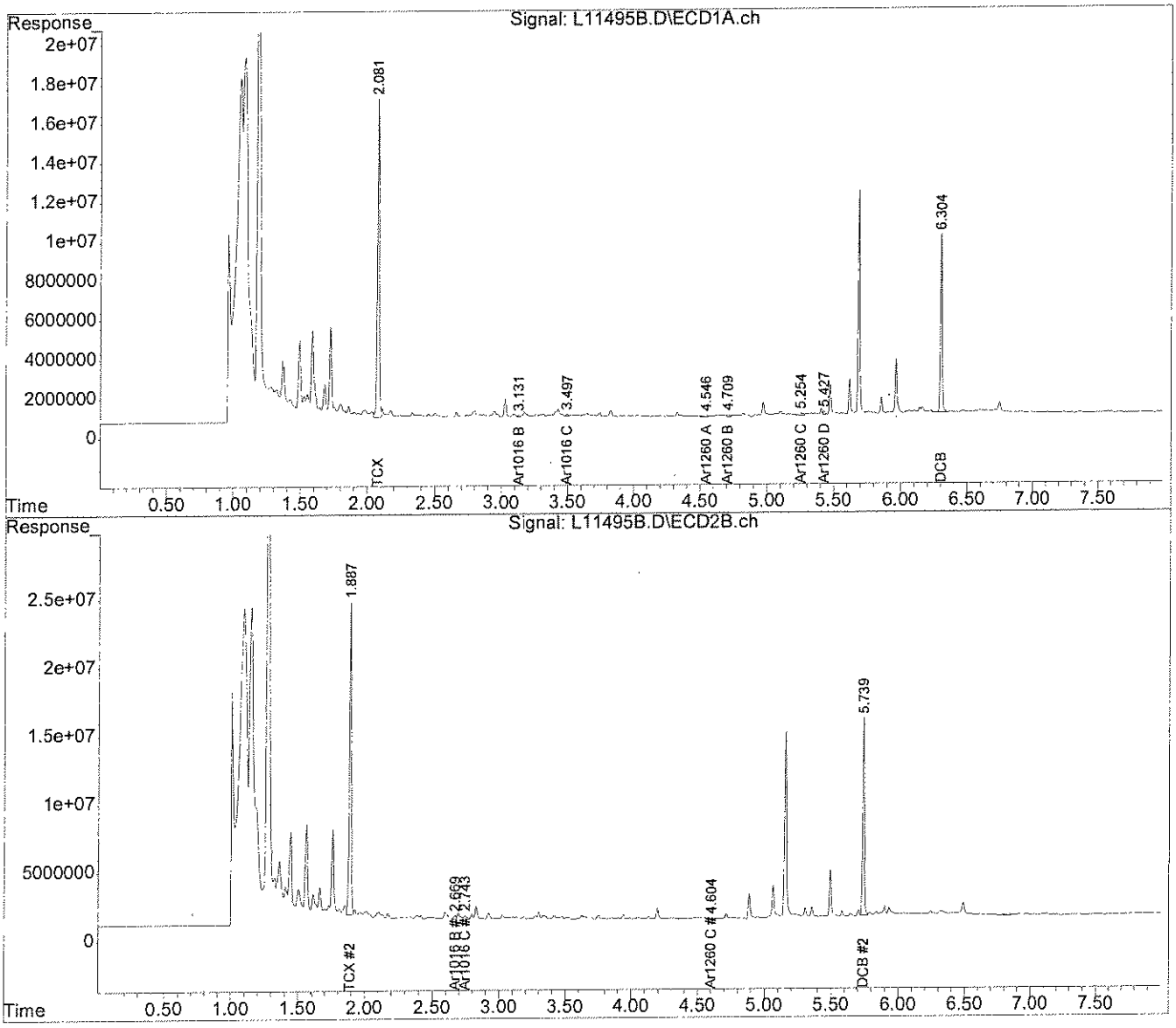
PCB Report

Authorized signature

Data Path : C:\msdchem\1\DATA\012908-L\
Data File : L11495B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 29 Jan 08 12:33 pm
Operator :
Sample : B01288PSOX
Misc : SOIL
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 29 13:39:45 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jan 11 10:27:47 2008
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 30, 2008

CLIENT SAMPLE ID

Project Name: Yale ION Source Room

Project Number: 210811

Field Sample ID: CC-01A

SAMPLE DATA

Lab Sample ID: 60655-1
Matrix: Solid
Percent Solid: 96
Dilution Factor: 1.0
Collection Date: 01/25/08
Lab Receipt Date: 01/28/08
Extraction Date: 01/29/08
Analysis Date: 01/29/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	83	%
Decachlorobiphenyl	61	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

PCB Report

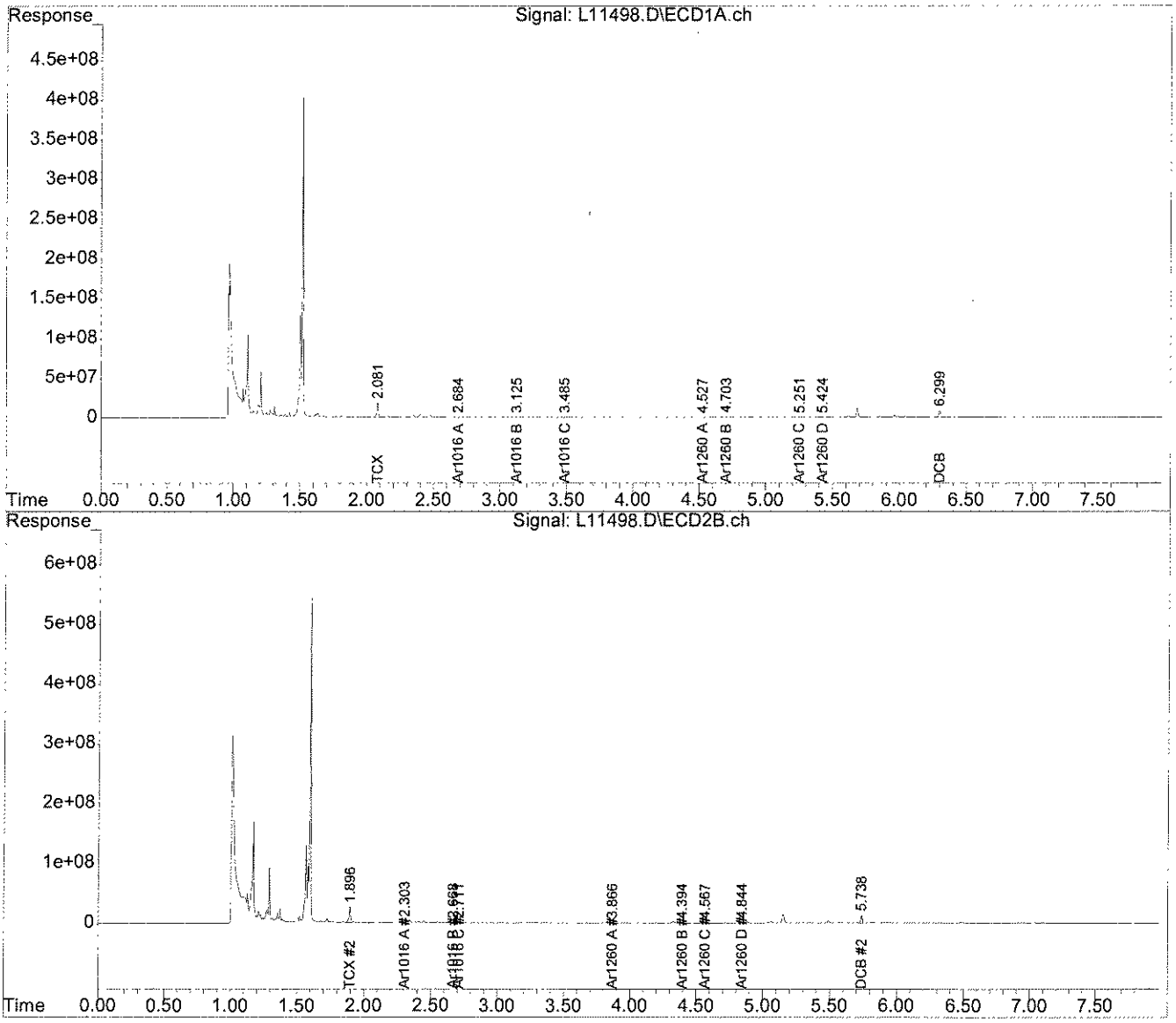
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\012908-L\
Data File : L11498.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 29 Jan 08 1:03 pm
Operator :
Sample : 60655-1
Misc : SOIL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 29 13:39:51 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jan 11 10:27:47 2008
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 30, 2008

CLIENT SAMPLE ID

Project Name: Yale ION Source Room

Project Number: 210811

Field Sample ID: CC-02A

SAMPLE DATA

Lab Sample ID: 60655-2
Matrix: Solid
Percent Solid: 94
Dilution Factor: 1.1
Collection Date: 01/25/08
Lab Receipt Date: 01/28/08
Extraction Date: 01/28/08
Analysis Date: 01/29/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	36	U
PCB-1221	36	U
PCB-1232	36	U
PCB-1242	36	U
PCB-1248	36	U
PCB-1254	36	U
PCB-1260	36	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	58	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

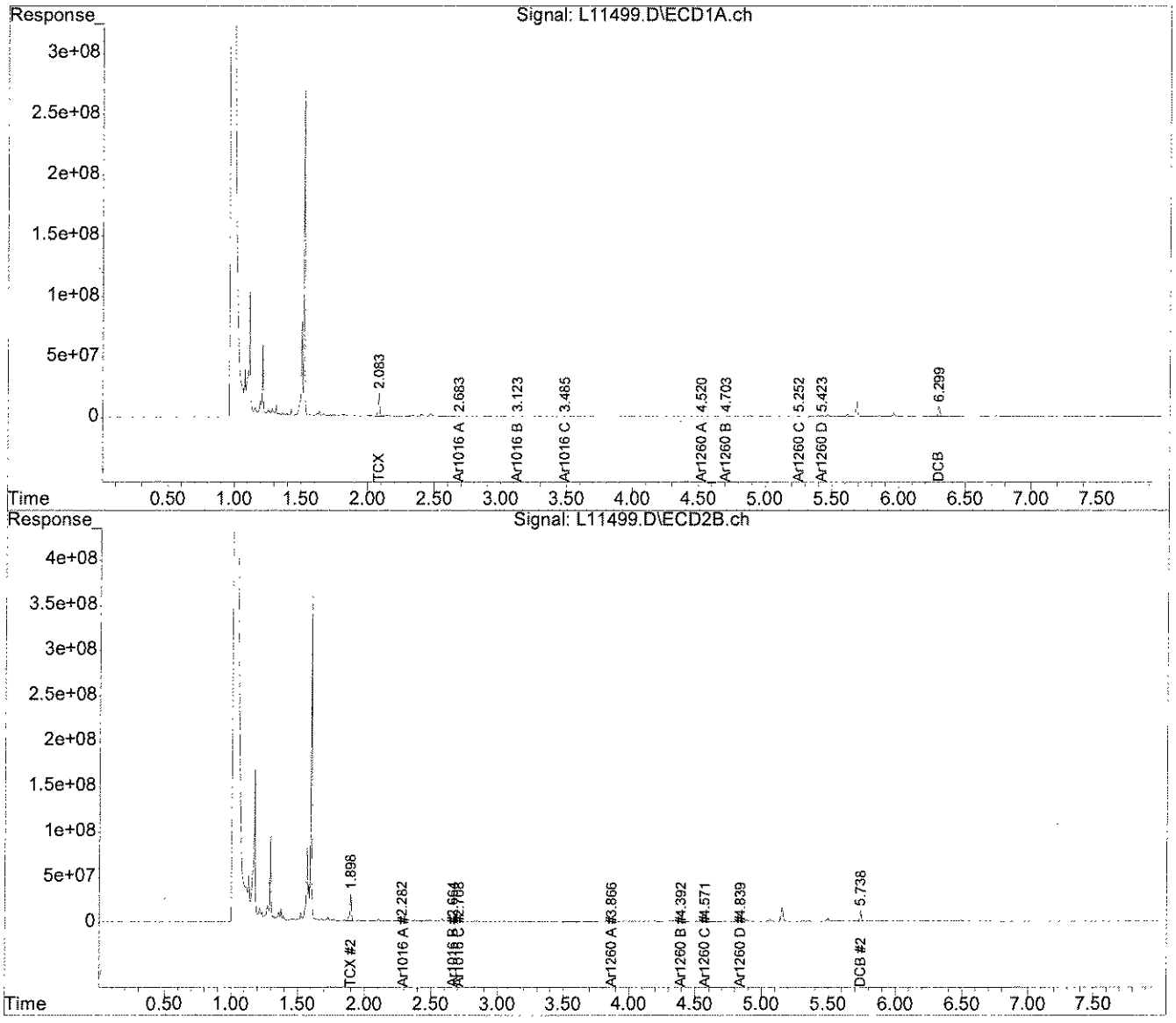
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\012908-L\
Data File : L11499.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 29 Jan 08 1:14 pm
Operator :
Sample : 60655-2
Misc : SOIL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 29 13:39:53 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jan 11 10:27:47 2008
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 30, 2008

CLIENT SAMPLE ID

Project Name: Yale ION Source Room

Project Number: 210811

Field Sample ID: CC-03A

SAMPLE DATA

Lab Sample ID: 60655-3
Matrix: Solid
Percent Solid: 97
Dilution Factor: 1.0
Collection Date: 01/25/08
Lab Receipt Date: 01/28/08
Extraction Date: 01/28/08
Analysis Date: 01/29/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	73	%
Decachlorobiphenyl	59	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

PCB Report

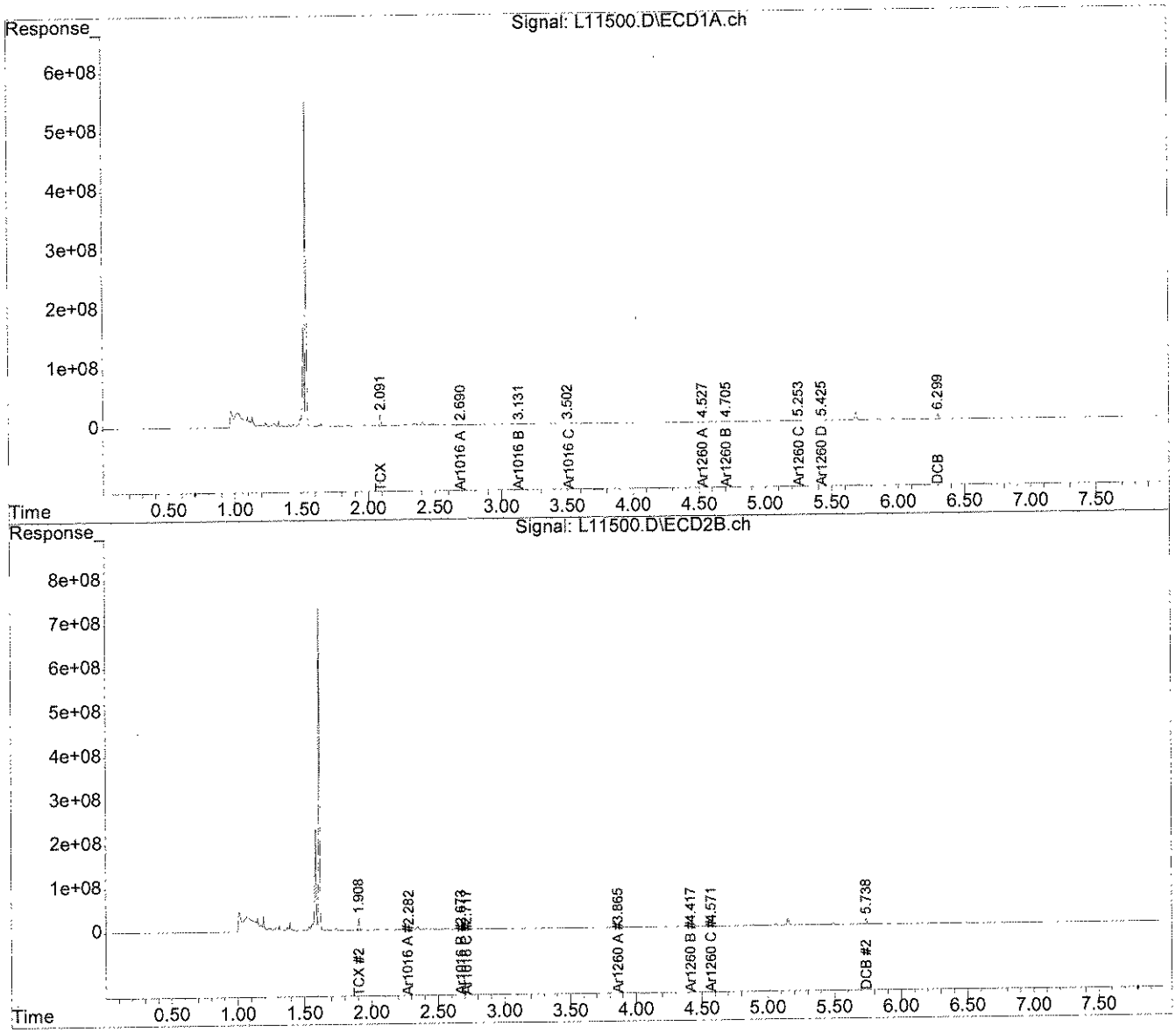
Authorized signature

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012908-L\
Data File : L11500.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 29 Jan 08 1:24 pm
Operator :
Sample : 60655-3
Misc : SOIL
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 29 14:41:05 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jan 11 10:27:47 2008
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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800-929-9906

Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 30, 2008

CLIENT SAMPLE ID

Project Name: Yale ION Source Room

Project Number: 210811

Field Sample ID: EB-01

SAMPLE DATA

Lab Sample ID: 60655-4
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 01/25/08
Lab Receipt Date: 01/28/08
Extraction Date: 01/28/08
Analysis Date: 01/29/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	64	%
Decachlorobiphenyl	24*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: * Surrogate recovery outside control limits. Secondary surrogate is in control.

PCB Report

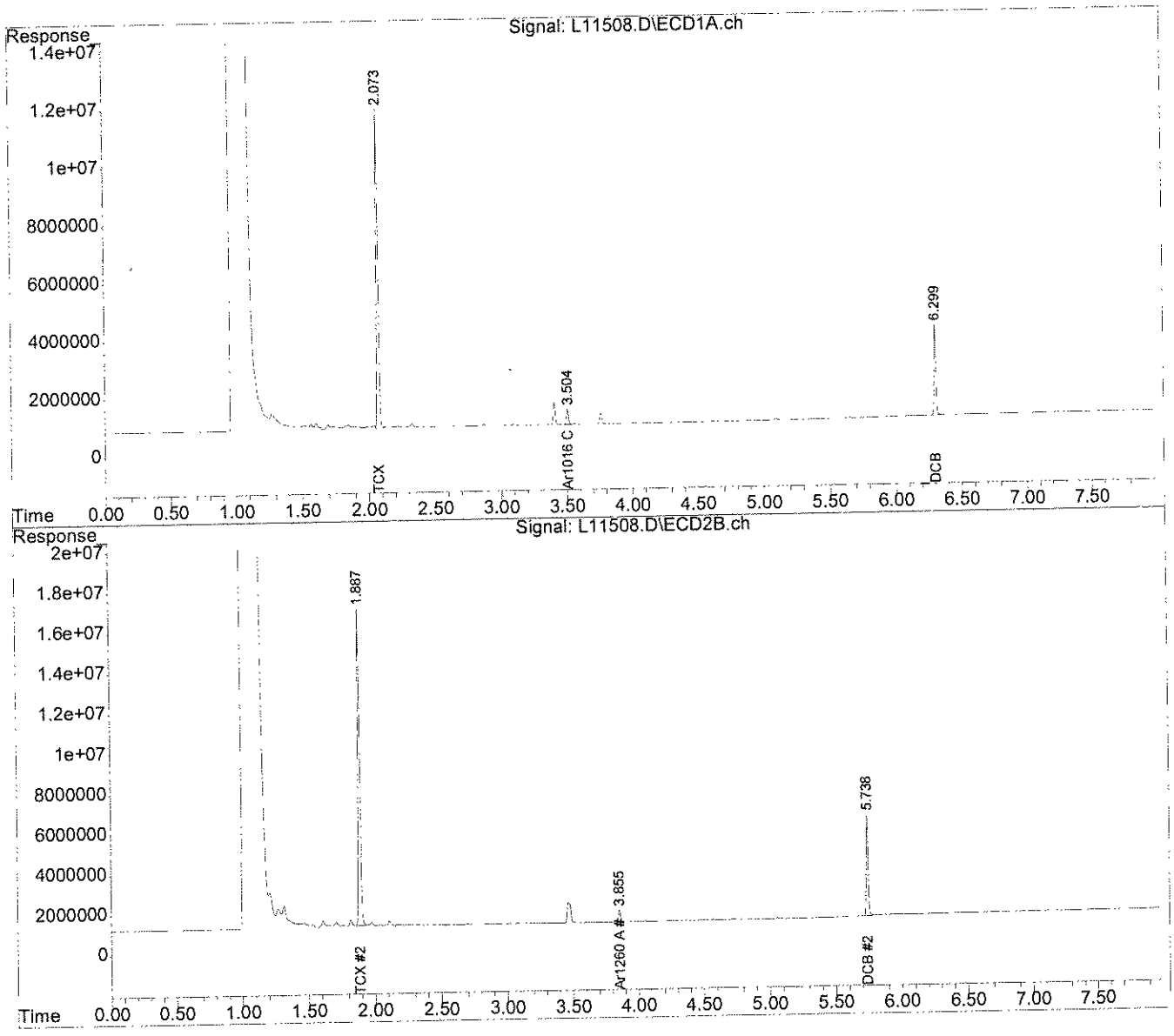
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\012908-L\
Data File : L11508.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 29 Jan 08 3:04 pm
Operator :
Sample : 60655-4
Misc :
ALS Vial : 38 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 29 15:12:33 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jan 11 10:27:47 2008
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



PCB
QC FORMS

PCB AQUEOUS
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60655

Non-spiked sample: B01288PW

Spike: L01288PWB

Spike duplicate: LD01288PWB

COMPOUND	LCS SPIKE ADDED (ug/L)	LCSD SPIKE ADDED (ug/L)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#	SPIKE DUP RESULT (ug/L)	SPIKE DUP % REC	#	RPD	#
PCB 1016	2.0	2.0	79	113	25	0.00	1.75	87		1.93	97		10.3	
PCB 1260	2.0	2.0	58	115	25	0.00	1.60	80		1.54	77		4.1	
PCB 1016 #2	2.0	2.0	81	112	25	0.00	1.71	85		1.90	95		10.6	
PCB 1260 #2	2.0	2.0	54	123	25	0.00	1.41	70		1.34	67		5.1	

Column to be used tu flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been volume adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60655

Non-spiked sample: B01288PSOX

Spike: L01288PSOX

Spike duplicate: LD01288PSOX

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	205	102		199	99		3.1	
PCB 1260	200	200	60	130	30	0	217	109		207	103		4.9	
PCB 1016 #2	200	200	65	140	30	0	229	115		210	105		8.9	
PCB 1260 #2	200	200	60	130	30	0	185	93		174	87		6.3	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB SOIL
MATRIX SPIKE/DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60555

Non-spiked sample: 60655-3

Spike: 60655-3, MS

Spike duplicate: 60655-3, MSD

COMPOUND	MS SPIKE ADDED (ug/kg)	MSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	205	205	65	140	30	0	196	95		200	98		2.3	
PCB 1260	205	205	60	130	30	0	206	101		206	101		0.0	
PCB 1016 #2	205	205	65	140	30	0	260	127		305	149	*	16.1	
PCB 1260 #2	205	205	60	130	30	0	168	82		171	83		2.0	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

MS/MSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 1, 10/1/02

Samples were:
1) Shipped or ~~hand-delivered~~
2) Temp blank °C 4°C
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: PM 1/28/08

*CL checked on Amber liter (EB-01) with KI paper (-) CP 1/28/08

Project#: 210811 Proj. Name: YALE ION SOURCE ROOM
Company: WOODARD & CURRAN
Contact: JEFF HAMEL / GEORGE FRANKLIN
Address: 35 NE BUSINESS
ANDOVER MA
Phone: 978.557.8150 PO# Quote #
Sampler (Signature):

Matrix Key:
WW=Wastewater
SW=Surfacewater
GW=Groundwater
DW=Drinkingwater
S=Soil/Sludge
O=Oil C: CONCRETE
E=Extract
X=Other

Container Key
P=plastic G=glass

Preservation

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4°C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
CC-01A	1/25/08	0903	PCB-8082	X	X						C	1	G		60655 -1
CC-02A	1/25/08	0915	PCB-8082	X	X						C	1	G		-2
CC-03A	1/25/08	0928	PCB-8082	X	X						C	1	G		-3
EB-01	1/25/08	0935	PCB-8082	X	X						X	1	G	*	-4

Received By: Secured Storage — Time: 1500 — Date: 1/25/08
Received By: Mark Gorman — Time: 1305 — Date: 1-28-08
Received By: — Time: — Date:

FAX RESULTS? YES (NO)
Fax #

Turnaround Request
Standard ☐ Priority ☒
Due Date — Due Date 1/31/08

Comments / Instructions:
SOXLET EXTRACTION
BILL DIRECT TO YALE (ROBERT KLEIN)
SEND RESULTS TO JEFF HAMEL, GEORGE FRANKLIN & ROBERT KLEIN

Relinquished By Sampler:
Relinquished By: Secured Storage
Relinquished By:

Page 1 of 1

Analytics\AEL Documents\AEL COC

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 60655
CLIENT: YALE
PROJECT: Vale ION Source Room

COOLER NUMBER: _____
NUMBER OF COOLERS: 1
DATE RECEIVED: 1/28/08

A: PRELIMINARY EXAMINATION:

DATE COOLER OPENED: 1/28/08

1. Cooler received by(initials) NF — Date Received: 1/28/08
2. Did cooler come with a shipping slip? Y (N/A)

If YES, enter carrier name and airbill number here: _____

3. Were custody seals on the outside of cooler? Y (N/A)
How many & where: _____ Seal Date: _____ Seal Name: _____
4. Did the custody seals arrive unbroken and intact upon arrival? Y (N/A)
5. COC#: _____
6. Were Custody papers filled out properly (ink,signed, etc)? (Y) N
7. Were custody papers sealed in a plastic bag? (Y) N
8. Did you sign the COC in the appropriate place? (Y) N
9. Was the project identifiable from the COC papers? (Y) N
10. Was enough ice used to chill the cooler? (Y) N — Temp. of cooler: 4°

B. Log-In: Date samples were logged in: CP — By: 1/28/08

11. Type of packing in cooler(bubble wrap, popcorn) (Y) N
12. Were all bottles sealed in separate plastic bags? (Y) N
13. Did all bottles arrive unbroken and were labels in good condition? (Y) N
14. Were all bottle labels complete(ID,Date,time,etc.) (Y) N
15. Did all bottle labels agree with custody papers? (Y) N
16. Were the correct containers used for the tests indicated: (Y) N
17. Were samples received at the correct pH? Y (N/A)
18. Was sufficient amount of sample sent for the tests indicated? (Y) N
19. Were bubbles absent in VOA samples? Y (N/A)

If NO, List sample #'s: _____

20. Laboratory labeling verified by (initials): DM — Date: 1/28/08

analytics environmental laboratory LLC

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800-929-9906
www.analyticslab.com

February 12, 2008

Mr. Rob Klein
Yale University Environmental Helath&
Safety
135 College Street
New Haven CT 06510

RE: Analytical Results Case Narrative
Yale Ion Source Room
Analytics # 60451 Rev 1

Dear Mr. Klein;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Revision 1: This report has been revised to add "J" qualifiers to the results which were below the quantitation limit in three samples 60451-9 (WP-9), 60451-32 (CC-05), and 60451-33 (CC-06).

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No QC deviations.

PCBs by EPA Method 8082:
The aqueous sample 60451-35 (EB-01) and QC extracted 12/19/07 had low recovery of surrogate Decachlorobiphenyl.. The secondary surrogate 2,4,5,6-Tetrachloro-m-xylene was in control for all samples. The laboratory control samples (L12197PWB/LD12197PWB) were in control for all PCB recoveries. Sample 60451-35 (EB-01) was reanalyzed with similar results. Results were reported with a comment to this affect.

The MS/MSD analyzed on sample 60451-28 (CC-01) did not meet acceptance criteria for PCB recoveries due to PCBs 1254 and 1260 detected in the sample. The laboratory control samples (L12197PSOX/LD12197PSOX) were in control for all analytes. Results were reported without qualification.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

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Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

Report Number: 60451

Revision: Rev. 1

Re: Yale Ion Source Room **210811**

Enclosed are the results of the analyses on your sample(s). Samples were received on 18 December 2007 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
60451-1	12/17/07	WP-1	EPA 8082 (PCBs only)	
60451-2	12/17/07	WP-2	EPA 8082 (PCBs only)	
60451-3	12/17/07	WP-3	EPA 8082 (PCBs only)	
60451-4	12/17/07	WP-4	EPA 8082 (PCBs only)	
60451-5	12/17/07	WP-5	EPA 8082 (PCBs only)	
60451-6	12/17/07	WP-6	EPA 8082 (PCBs only)	
60451-7	12/17/07	WP-7	EPA 8082 (PCBs only)	
60451-8	12/17/07	WP-8	EPA 8082 (PCBs only)	
60451-9	12/17/07	WP-9	EPA 8082 (PCBs only)	
60451-10	12/17/07	WP-10	EPA 8082 (PCBs only)	
60451-11	12/17/07	WP-11	EPA 8082 (PCBs only)	
60451-12	12/17/07	WP-12	EPA 8082 (PCBs only)	
60451-13	12/17/07	WP-13	EPA 8082 (PCBs only)	
60451-14	12/17/07	WP-14	EPA 8082 (PCBs only)	
60451-15	12/17/07	WP-15	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Pennsylvania, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature MLenardelli for
Stephen L. Knollmeyer Lab. Director

Date 02/12/08

analytics environmental laboratory LLC

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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

Report Number: 60451

Revision: Rev. 1

Re: Yale Ion Source Room **210811**

Enclosed are the results of the analyses on your sample(s). Samples were received on 18 December 2007 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
60451-16	12/17/07	WP-16	EPA 8082 (PCBs only)	
60451-17	12/17/07	WP-17	EPA 8082 (PCBs only)	
60451-18	12/17/07	WP-18	EPA 8082 (PCBs only)	
60451-19	12/17/07	WP-19	EPA 8082 (PCBs only)	
60451-20	12/17/07	WP-20	EPA 8082 (PCBs only)	
60451-21	12/17/07	WP-21	EPA 8082 (PCBs only)	
60451-22	12/17/07	WP-22	EPA 8082 (PCBs only)	
60451-23	12/17/07	WP-23	EPA 8082 (PCBs only)	
60451-24	12/17/07	WP-24	EPA 8082 (PCBs only)	
60451-25	12/17/07	WP-25	EPA 8082 (PCBs only)	
60451-26	12/17/07	WP-26	EPA 8082 (PCBs only)	
60451-27	12/17/07	WP-27	EPA 8082 (PCBs only)	
60451-28	12/17/07	CC-01	EPA 8082 (PCBs only)	
60451-29	12/17/07	CC-02	EPA 8082 (PCBs only)	
60451-30	12/17/07	CC-03	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Pennsylvania, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 02/12/08

analytics environmental laboratory LLC

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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

Report Number: 60451

Revision: Rev. 1

Re: Yale Ion Source Room **210811**

Enclosed are the results of the analyses on your sample(s). Samples were received on 18 December 2007 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
60451-31	12/17/07	CC-04	EPA 8082 (PCBs only)	
60451-32	12/17/07	CC-05	EPA 8082 (PCBs only)	
60451-33	12/17/07	CC-06	EPA 8082 (PCBs only)	
60451-34	12/17/07	CC-07	EPA 8082 (PCBs only)	
60451-35	12/17/07	EB-01	EPA 8082 (PCBs only)	
60451-36	12/17/07	EB-02	Electronic Data Deliverable	
	12/17/07	EB-02	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Pennsylvania, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 02/12/08

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

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Mr. Rob Klein
Yale University Environmental Health & Safety
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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B12187PSOX
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

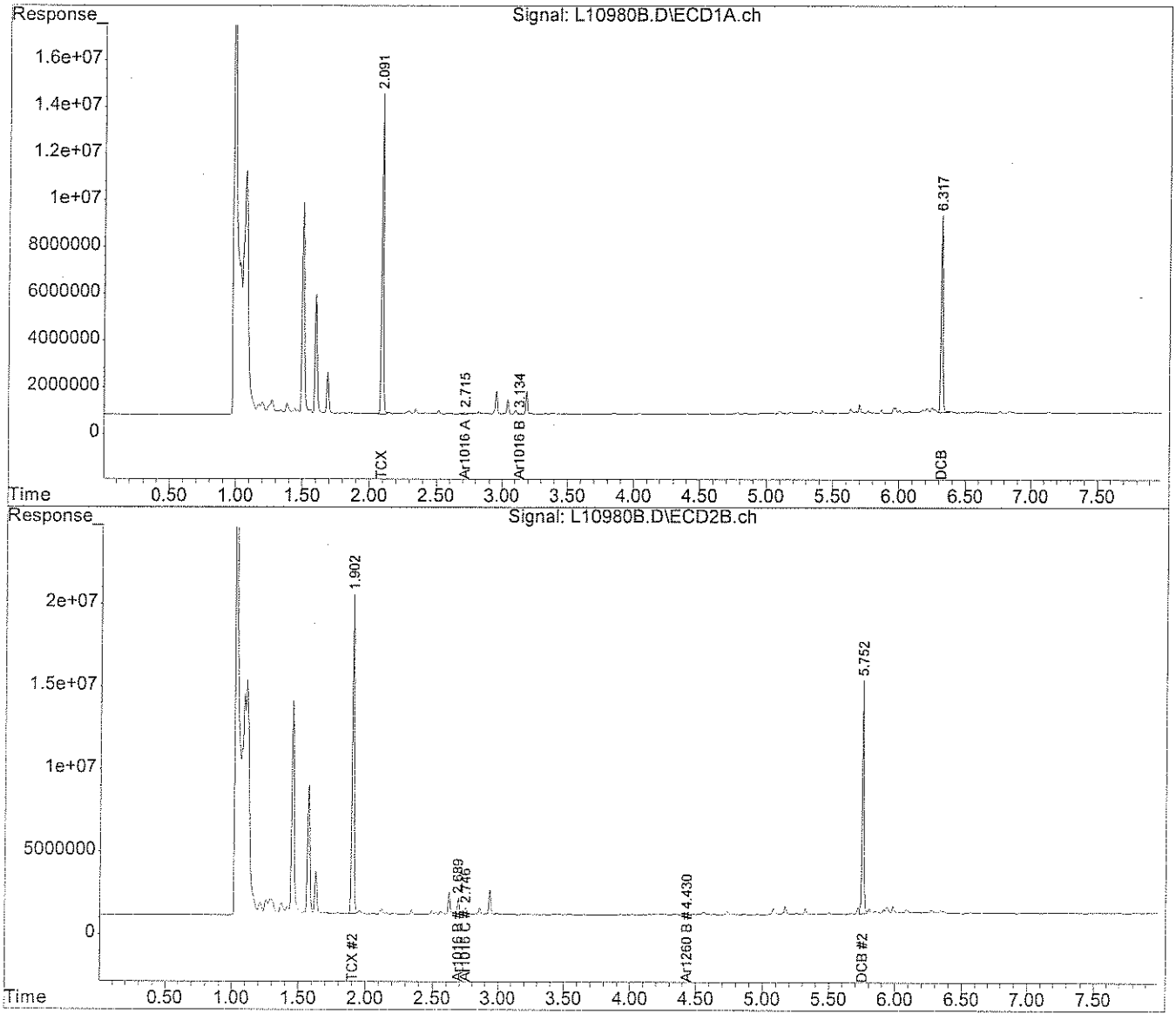
Authorized signature M Mendall

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10980B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 12:05 pm
Operator :
Sample : B12187PSOX, A/C
Misc : SOIL
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 12:55:28 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B12197PSOX
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 12/19/07
Analysis Date: 12/20/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

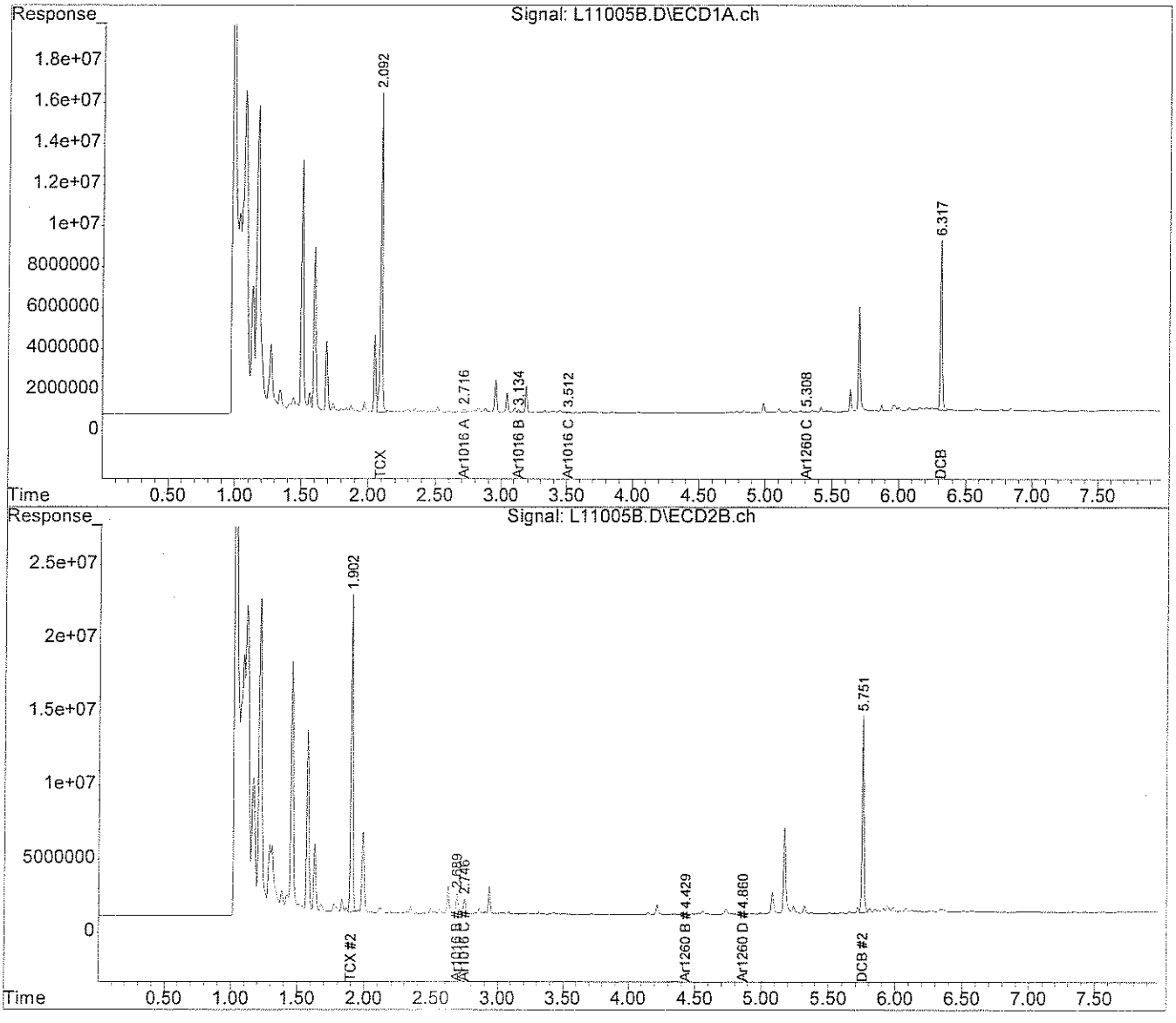
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11005B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 4:17 pm
Operator :
Sample : B12197PSOX, A/C
Misc : SOIL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:42 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B12197PSOX RR
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 12/19/07
Analysis Date: 12/20/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

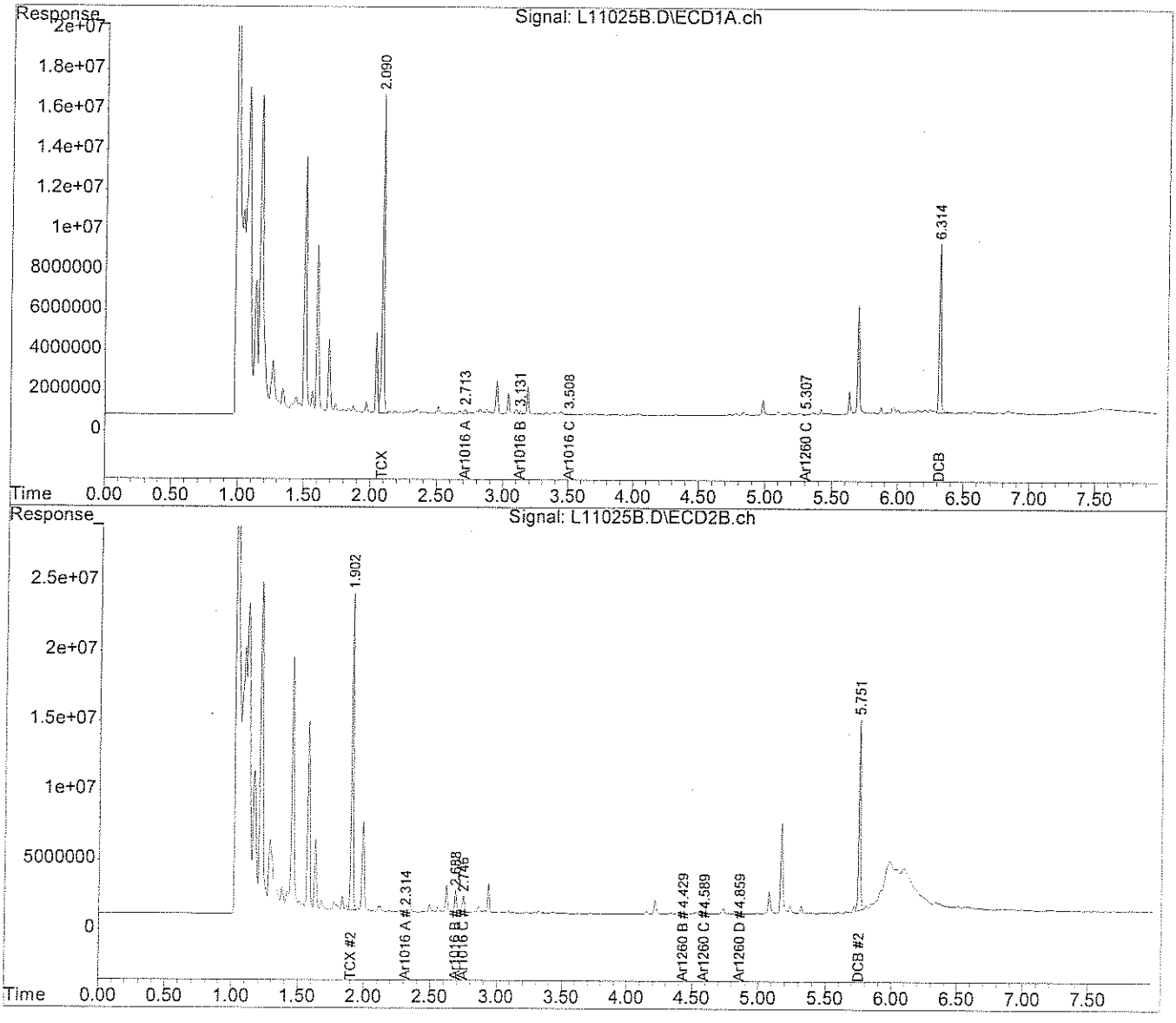
Authorized signature M Kendall

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11025B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 7:42 pm
Operator :
Sample : B12197PSOX, A/C, RR
Misc : SOIL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:18 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B12197PW
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 12/19/07
Analysis Date: 12/26/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.1	U
PCB-1221	0.1	U
PCB-1232	0.1	U
PCB-1242	0.1	U
PCB-1248	0.1	U
PCB-1254	0.1	U
PCB-1260	0.1	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	58	%
Decachlorobiphenyl	17 *	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: * Surrogate recovery outside control limits. Secondary surrogate is in control.

PCB Report

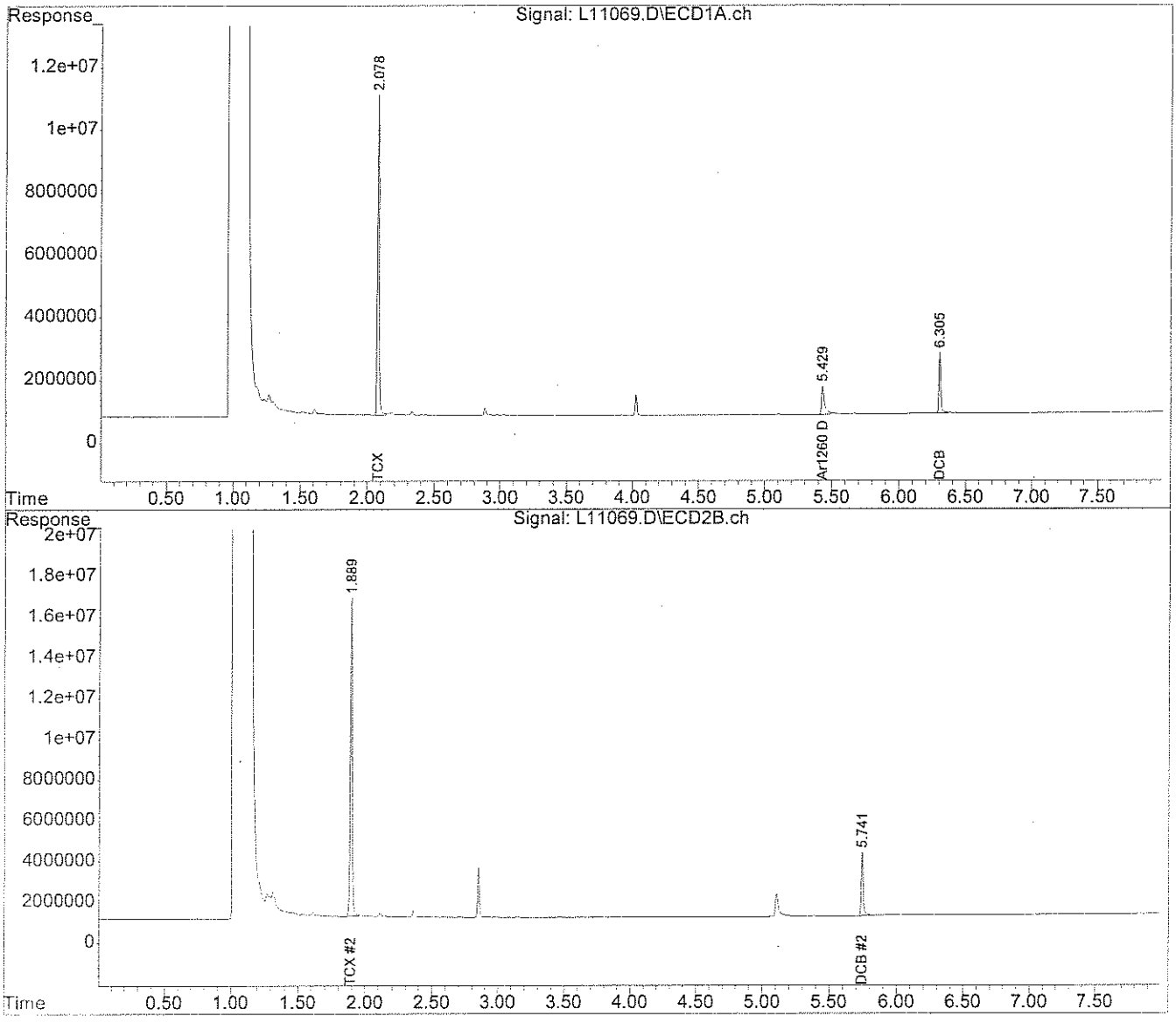
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\122607-L\
Data File : L11069.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 26 Dec 07 9:32 am
Operator :
Sample : B12197PW
Misc :
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 26 10:25:06 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B12267PO
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 12/26/07
Analysis Date: 12/27/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.1	U
PCB-1221	0.1	U
PCB-1232	0.1	U
PCB-1242	0.1	U
PCB-1248	0.1	U
PCB-1254	0.1	U
PCB-1260	0.1	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	106	%
Decachlorobiphenyl	57	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCB Report

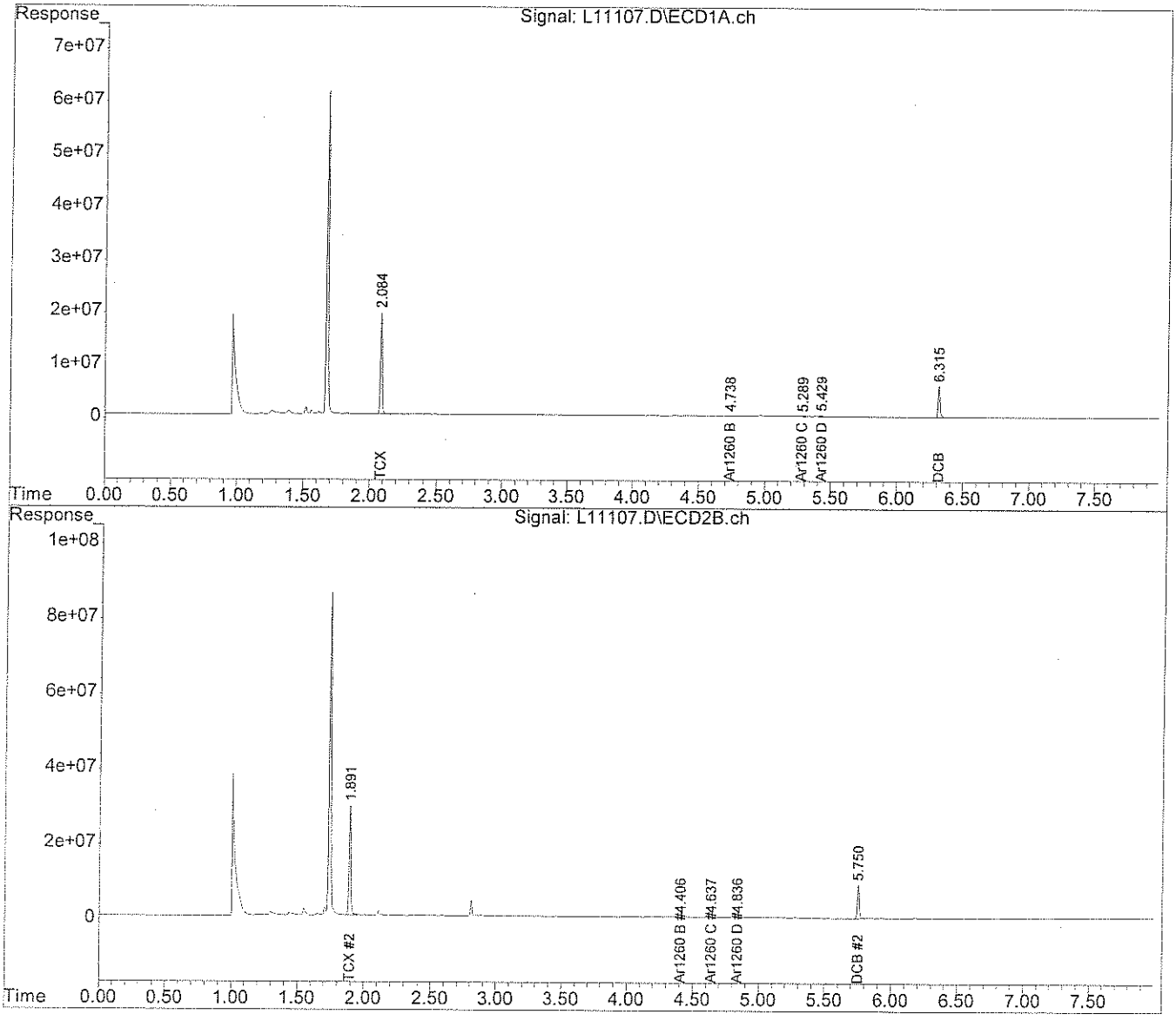
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\122607-L\
Data File : L11107.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 27 Dec 07 10:43 am
Operator :
Sample : B12267PO, A/C
Misc : SOIL
ALS Vial : 48 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 27 11:50:27 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B12317PW
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 12/31/07
Analysis Date: 01/02/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	67	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

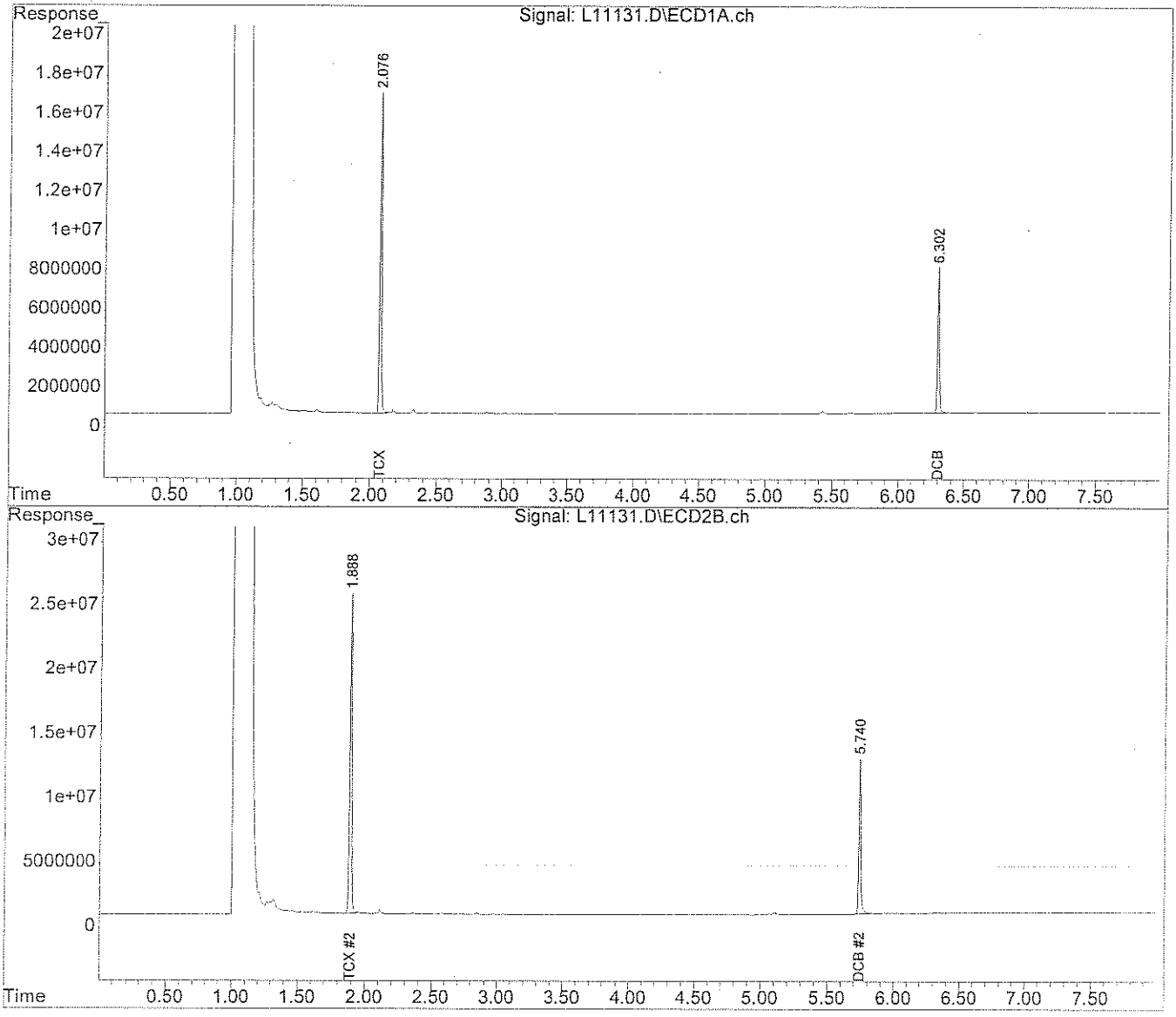
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\010208-L\
Data File : L11131.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 2 Jan 08 11:34 am
Operator :
Sample : B12317PW
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 02 12:00:23 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-1

SAMPLE DATA

Lab Sample ID: 60451-1
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**2.9**
PCB-1260	0.5	**1.6**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	84	%
Decachlorobiphenyl	73	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-1, A/C
Data File: L10983.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	2.6	2.9	11.9	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-1, A/C
Data File: L10983.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.6	1.3	20.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

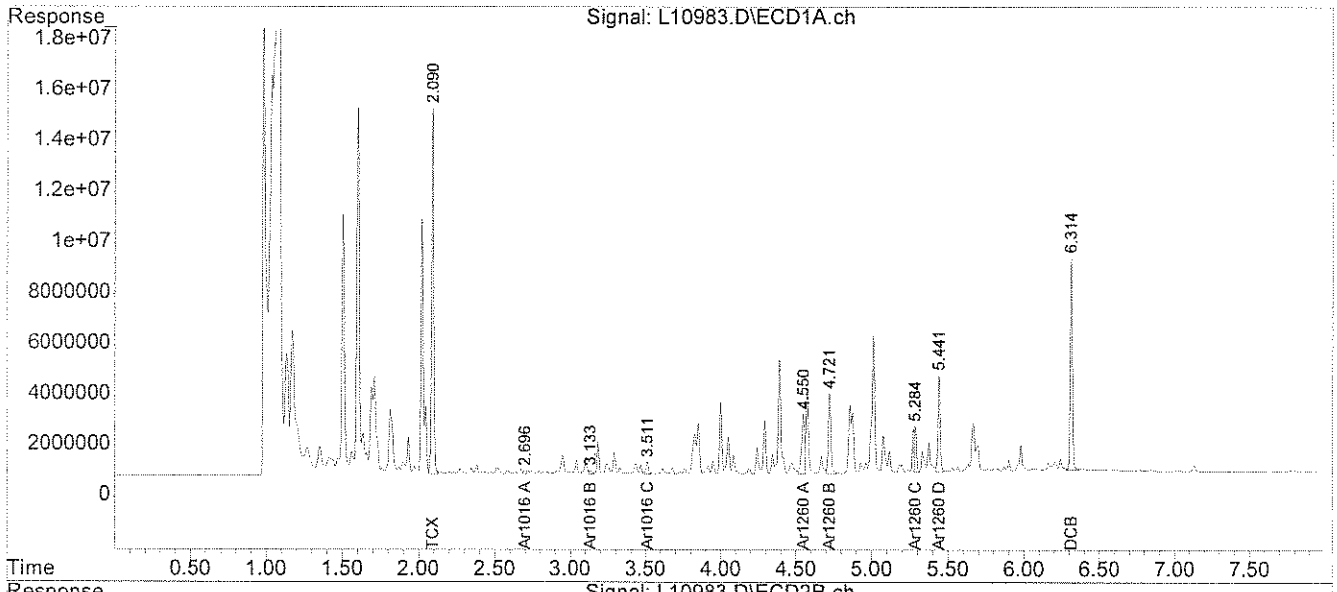
Comments: _____

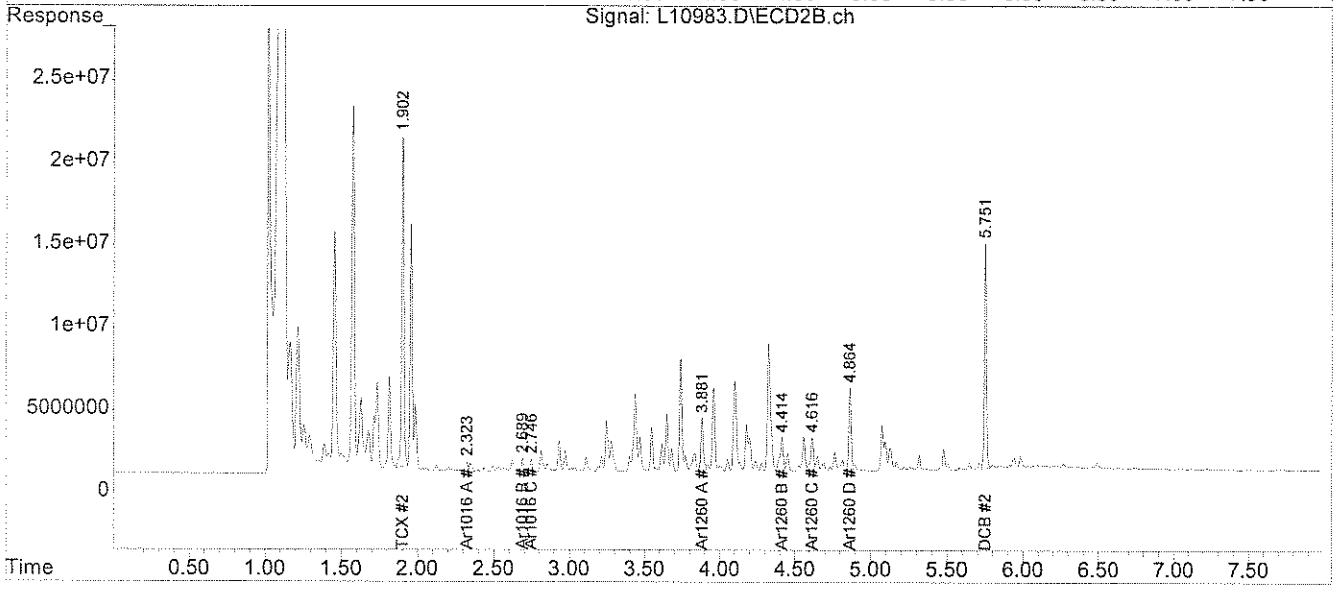
PCB FORM 10

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10983.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 12:35 pm
Operator :
Sample : 60451-1, A/C (Sig #1); 60451-1 (Sig #2)
Misc : SOIL
ALS Vial : 23 Sample Multiplier: 1

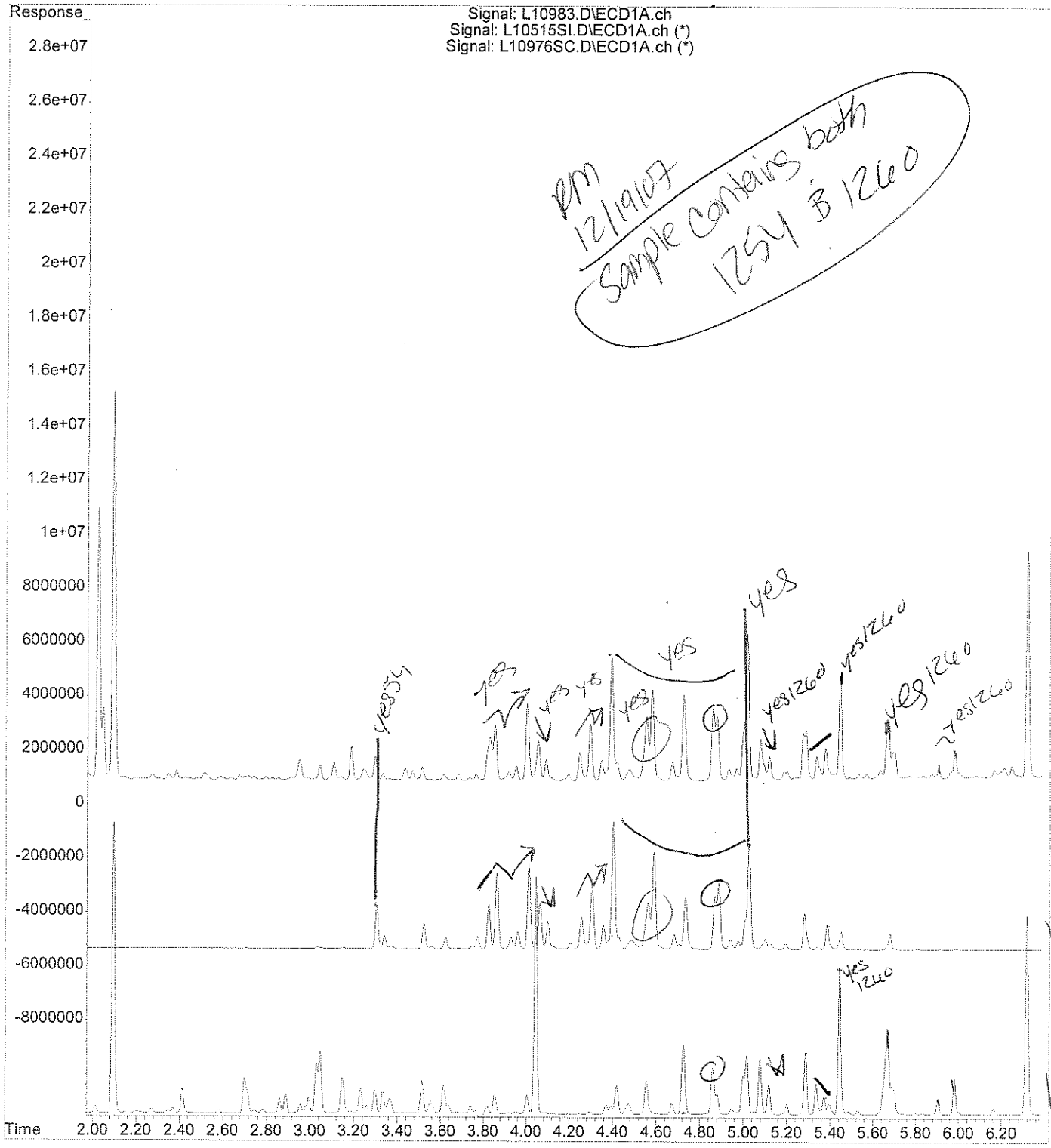
Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:22 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





File : C:\msdchem\1\DATA\121907-L\L10983.D
Operator :
Acquired : 19 Dec 07 12:35 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-1, A/C
Misc Info : SOIL
Vial Number: 23



5.1.208

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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-2

SAMPLE DATA

Lab Sample ID: 60451-2
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	1.4
PCB-1260	0.5	2.2

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-2, A/C
Data File: L10984.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.3	1.4	8.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-2, A/C
Data File: L10984.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	2.2	2.1	4.9	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

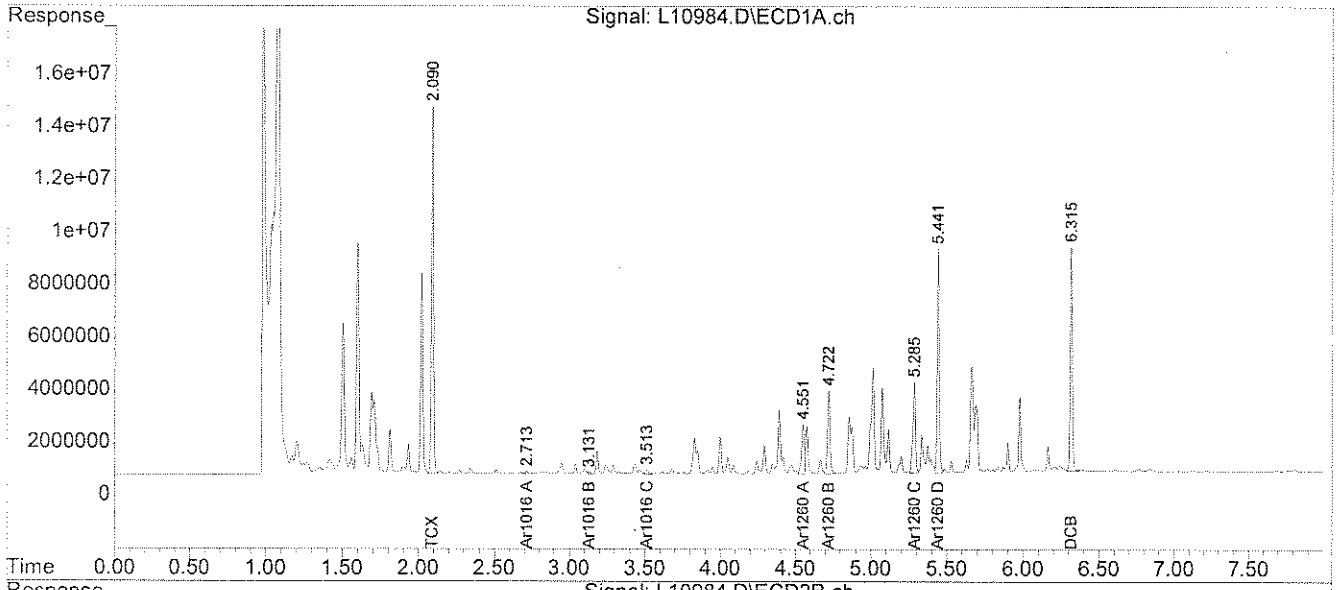
Comments: _____

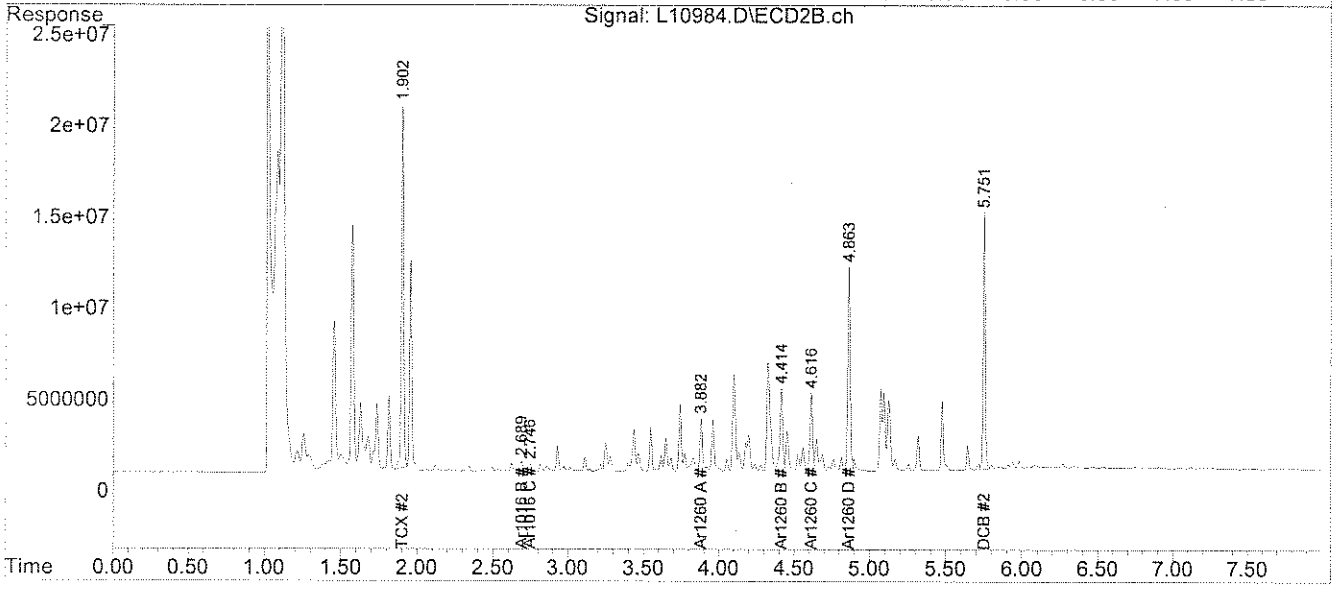
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10984.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 12:46 pm
Operator :
Sample : 60451-2, A/C (Sig #1); 60451-2 (Sig #2)
Misc : SOIL
ALS Vial : 24 Sample Multiplier: 1

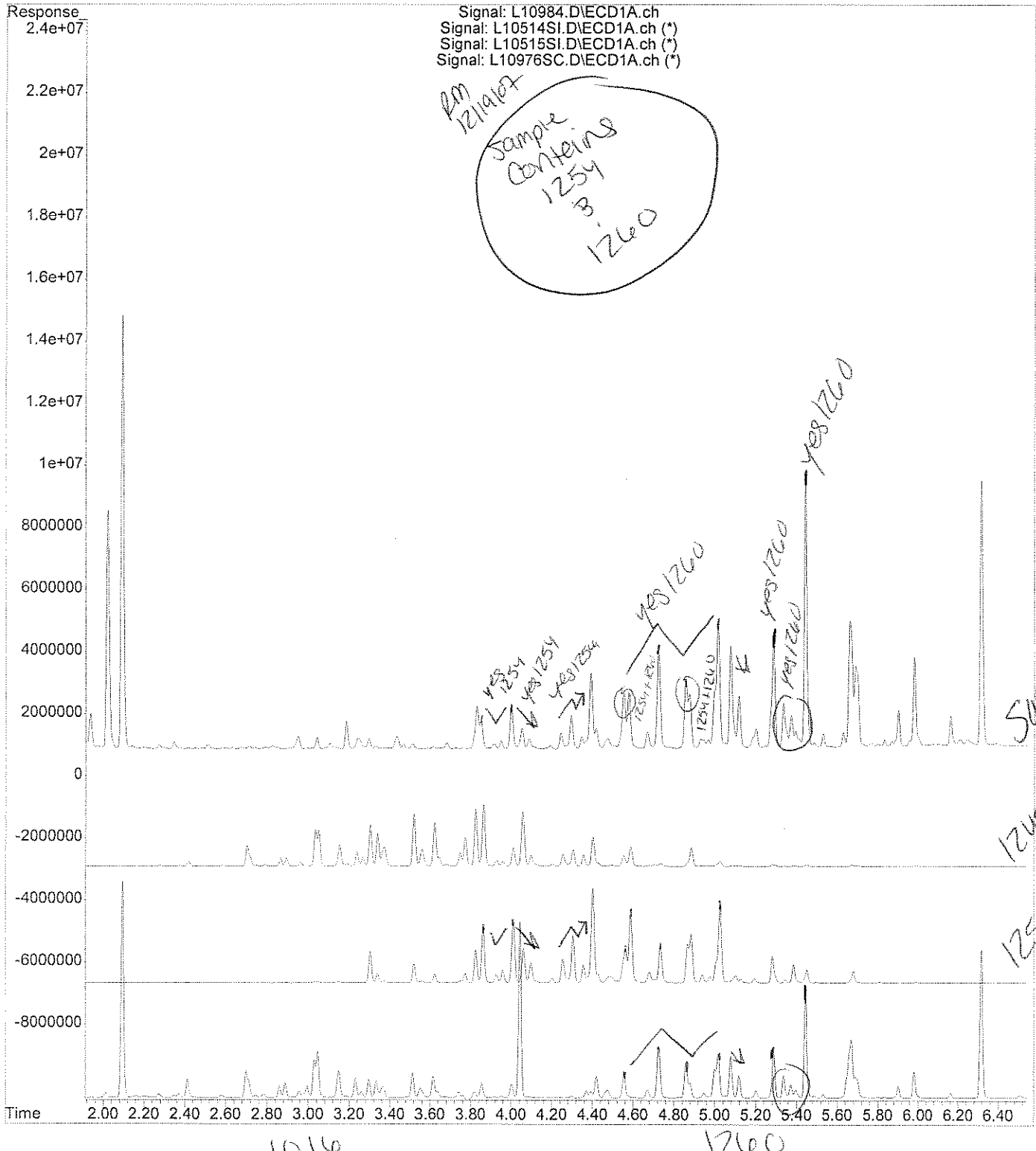
Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:25 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





File :C:\msdchem\1\DATA\121907-L\L10984.D
Operator :
Acquired : 19 Dec 07 12:46 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-2, A/C
Misc Info : SOIL
Vial Number: 24



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135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-3

SAMPLE DATA

Lab Sample ID: 60451-3
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.5**
PCB-1260	0.5	**1.8**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-3, A/C
Data File: L10985.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB XXXX	1.1	1.5	33.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-3, A/C
Data File: L10985.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.8	1.5	13.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

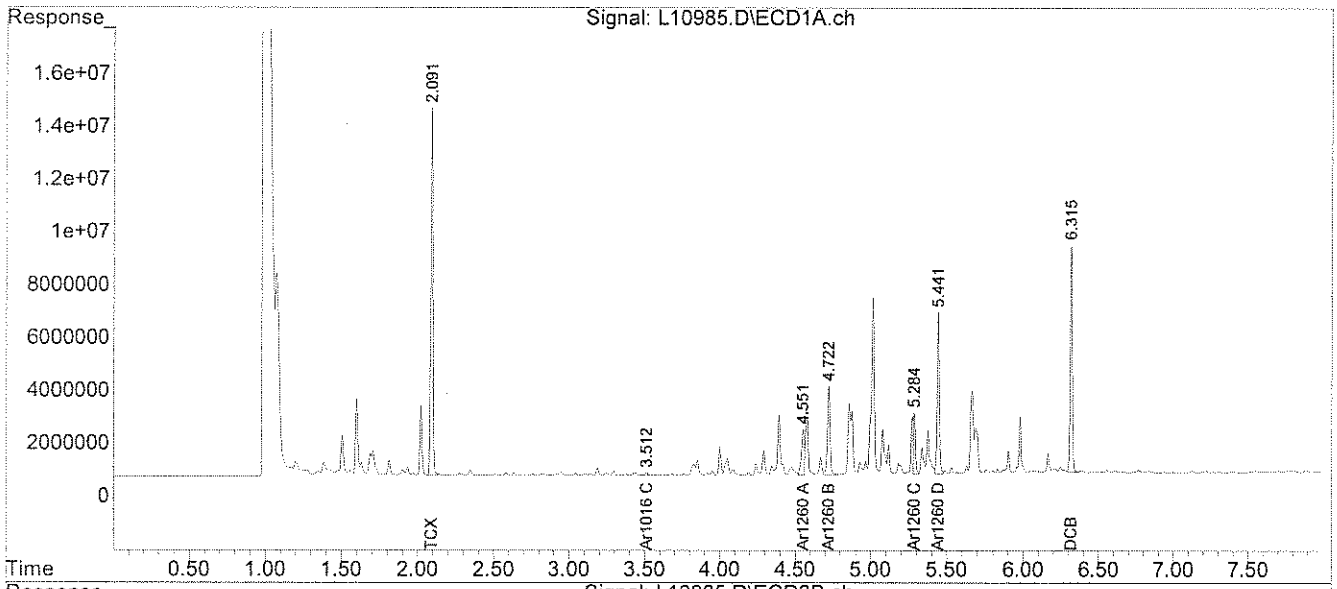
Comments: _____

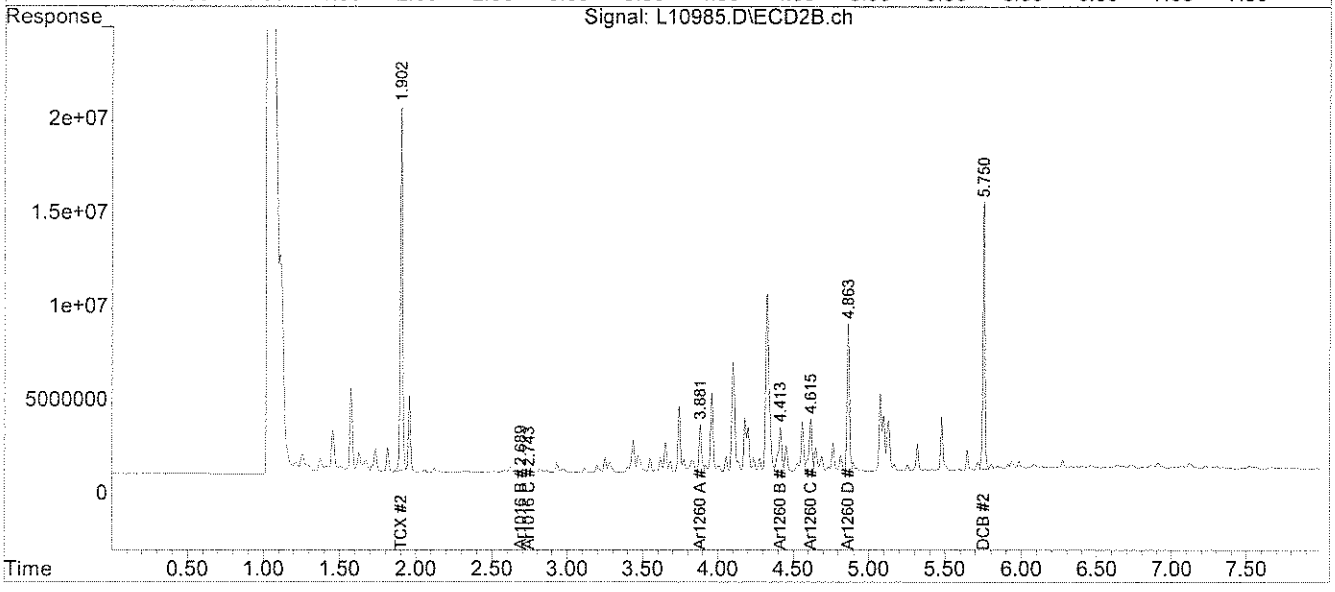
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10985.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 12:56 pm
Operator :
Sample : 60451-3, A/C (Sig #1); 60451-3 (Sig #2)
Misc : SOIL
ALS Vial : 25 Sample Multiplier: 1

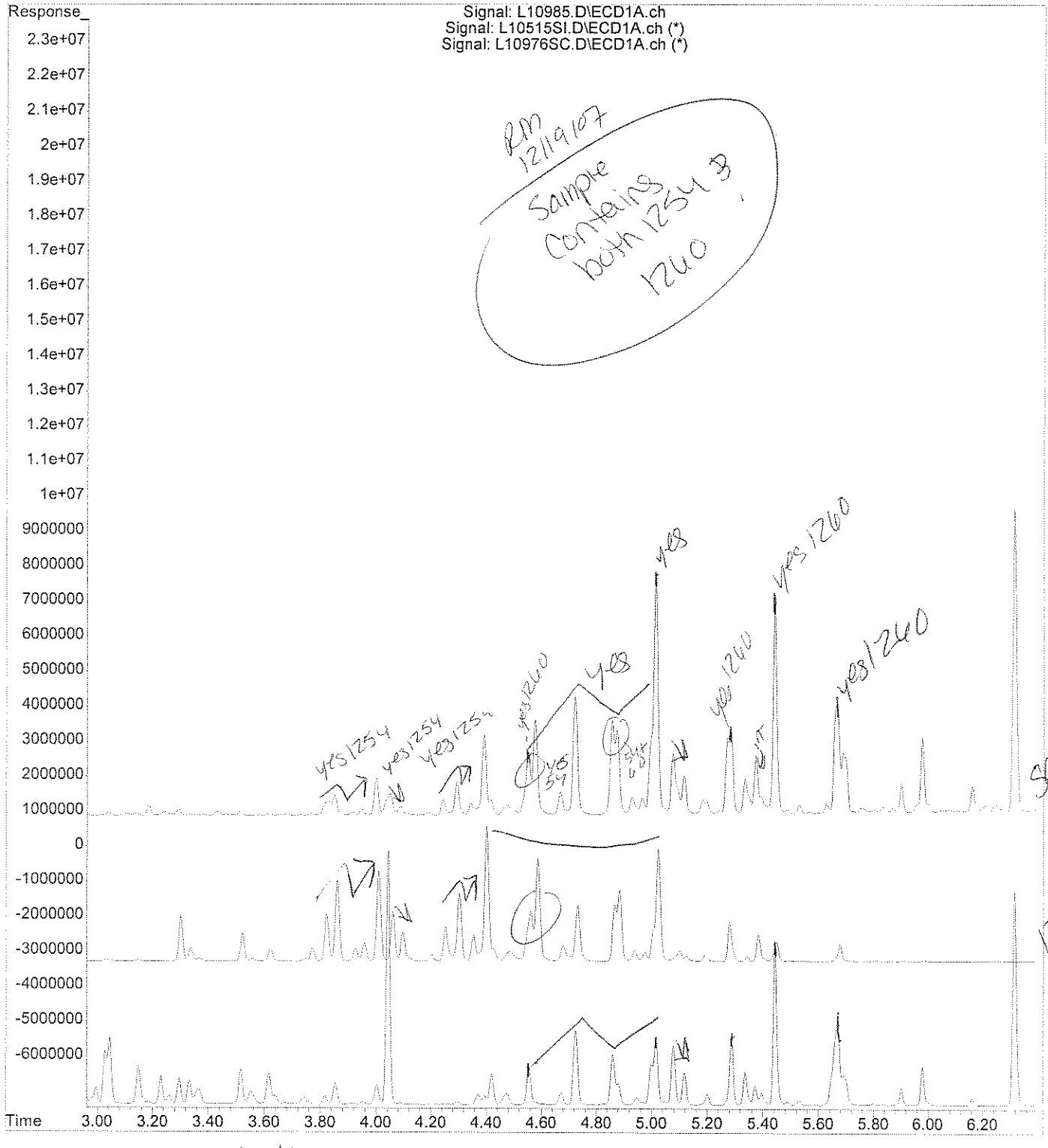
Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:27 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





File :C:\msdchem\1\DATA\121907-L\L10985.D
Operator :
Acquired : 19 Dec 07 12:56 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-3, A/C
Misc Info : SOIL
Vial Number: 25



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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-4

SAMPLE DATA

Lab Sample ID: 60451-4
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.4**
PCB-1260	0.5	**2.1**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	81	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-4, A/C
Data File: L10986.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.0	1.4	31.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-4, A/C
Data File: L10986.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	2.1	1.7	24.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

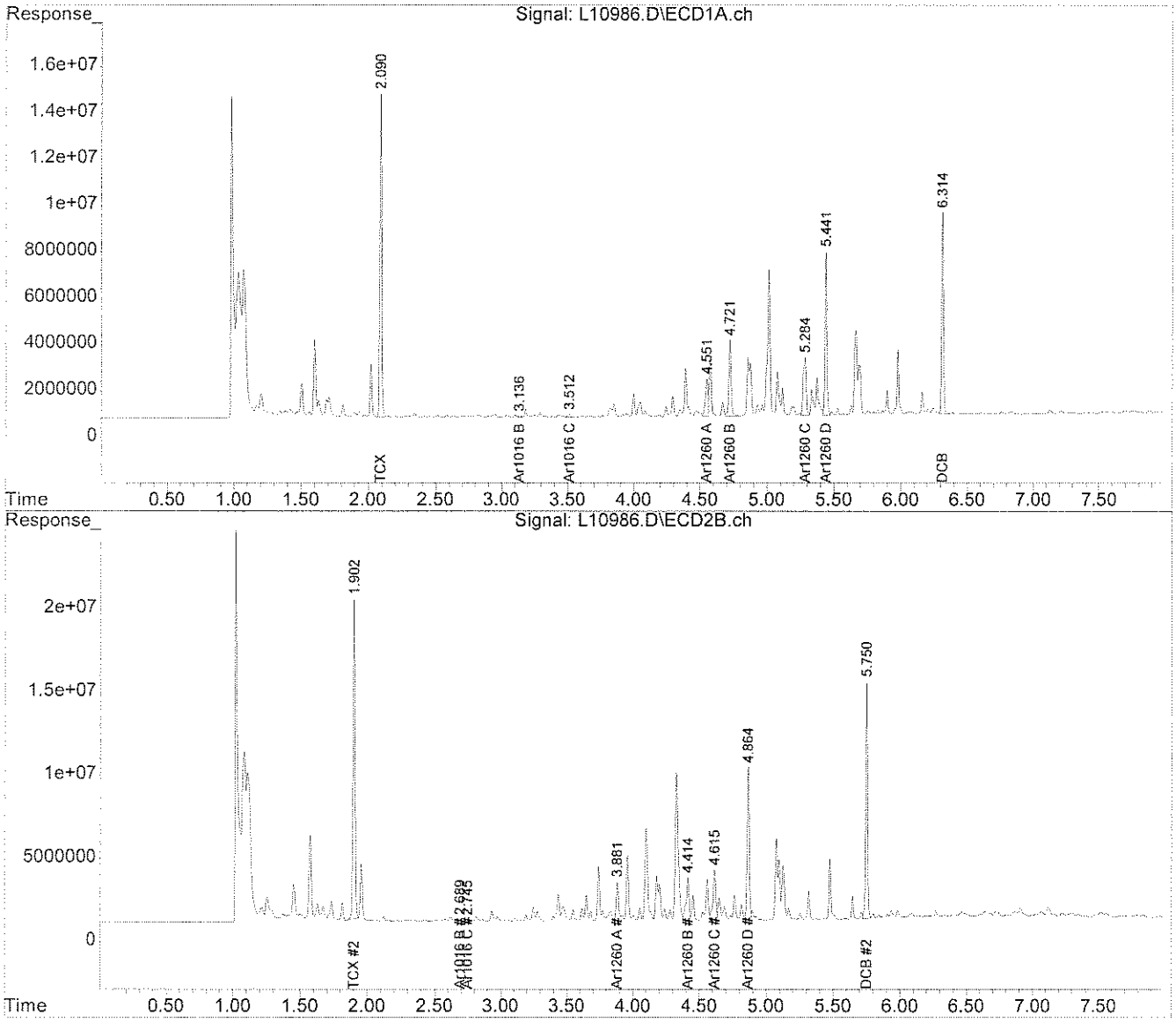
Comments: _____

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10986.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:06 pm
Operator :
Sample : 60451-4, A/C (Sig #1); 60451-4 (Sig #2)
Misc : SOIL
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:29 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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File        :C:\msdchem\1\DATA\121907-L\L10986.D
Operator    :
Acquired    : 19 Dec 07    1:06 pm using AcqMethod PEST.M
Instrument :    Inst L
Sample Name: 60451-4, A/C
Misc Info   : SOIL
Vial Number: 26
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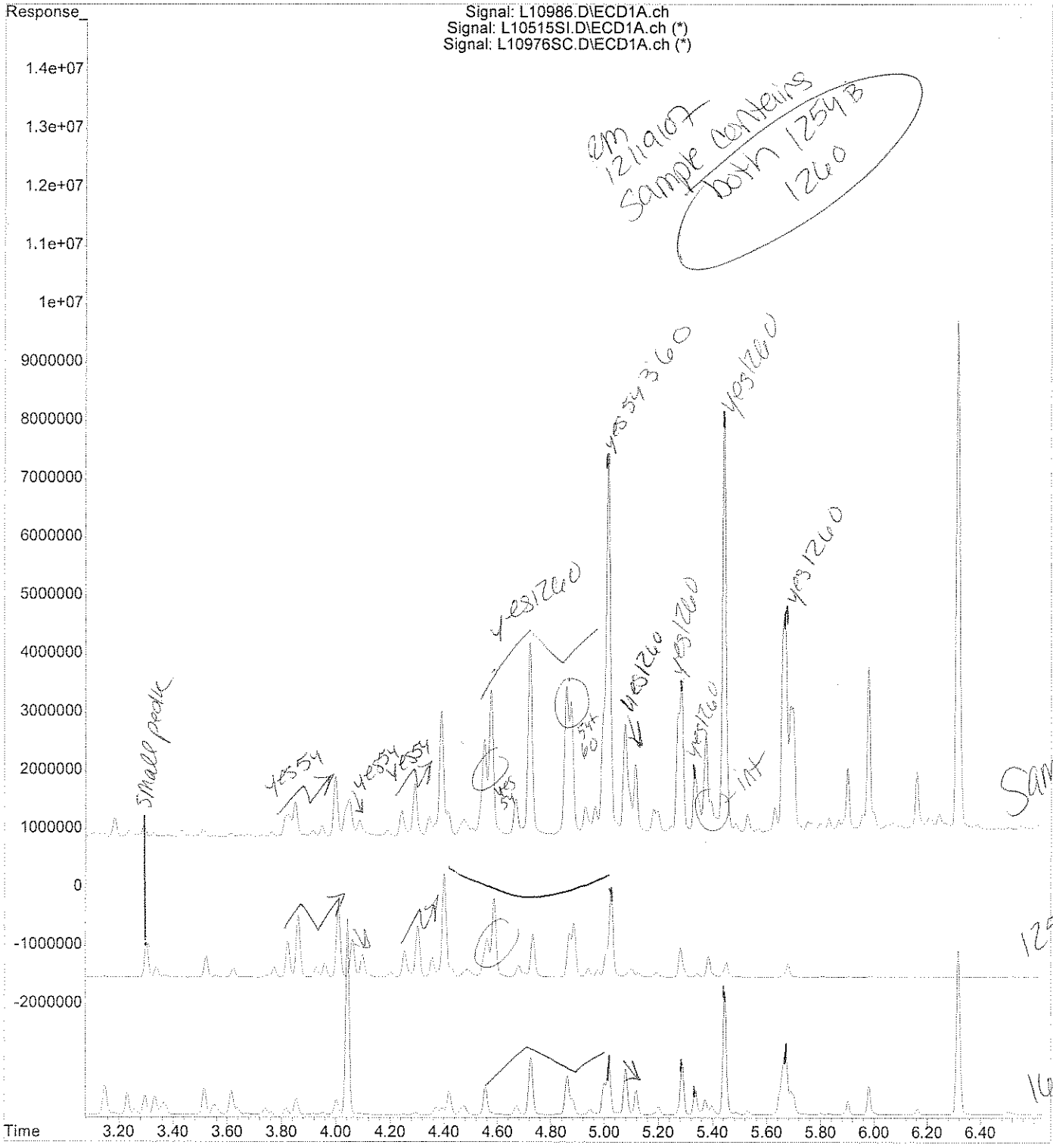

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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-5

SAMPLE DATA

Lab Sample ID: 60451-5
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.9**
PCB-1260	0.5	**1.2**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	75	%
Decachlorobiphenyl	78	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature M Lindall

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-5, A/C
Data File: L10987.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.6	0.9	32.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-5, A/C
Data File: L10987.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.2	0.9	28.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

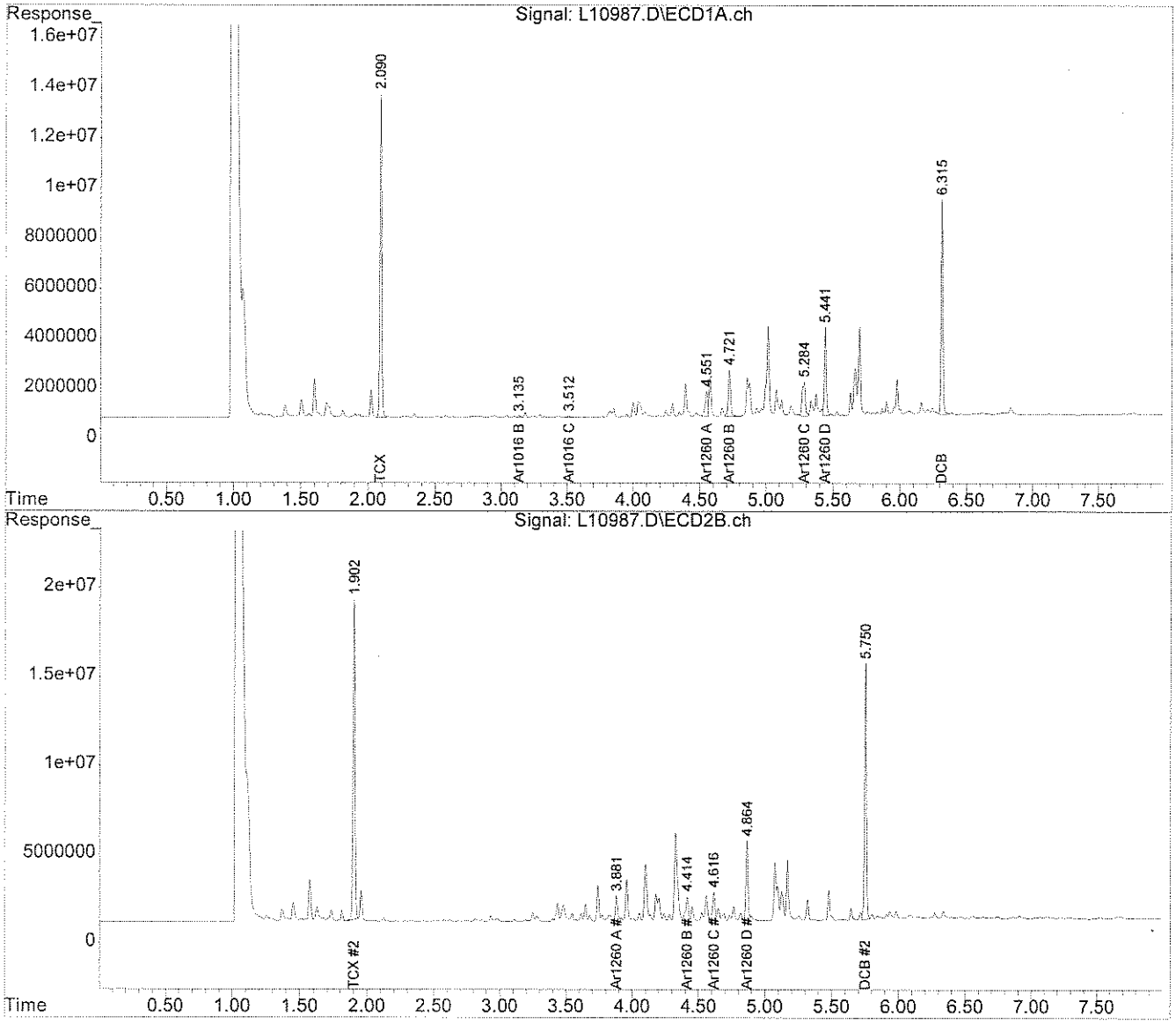
Comments: _____

Quantitation Report (Not Reviewed)

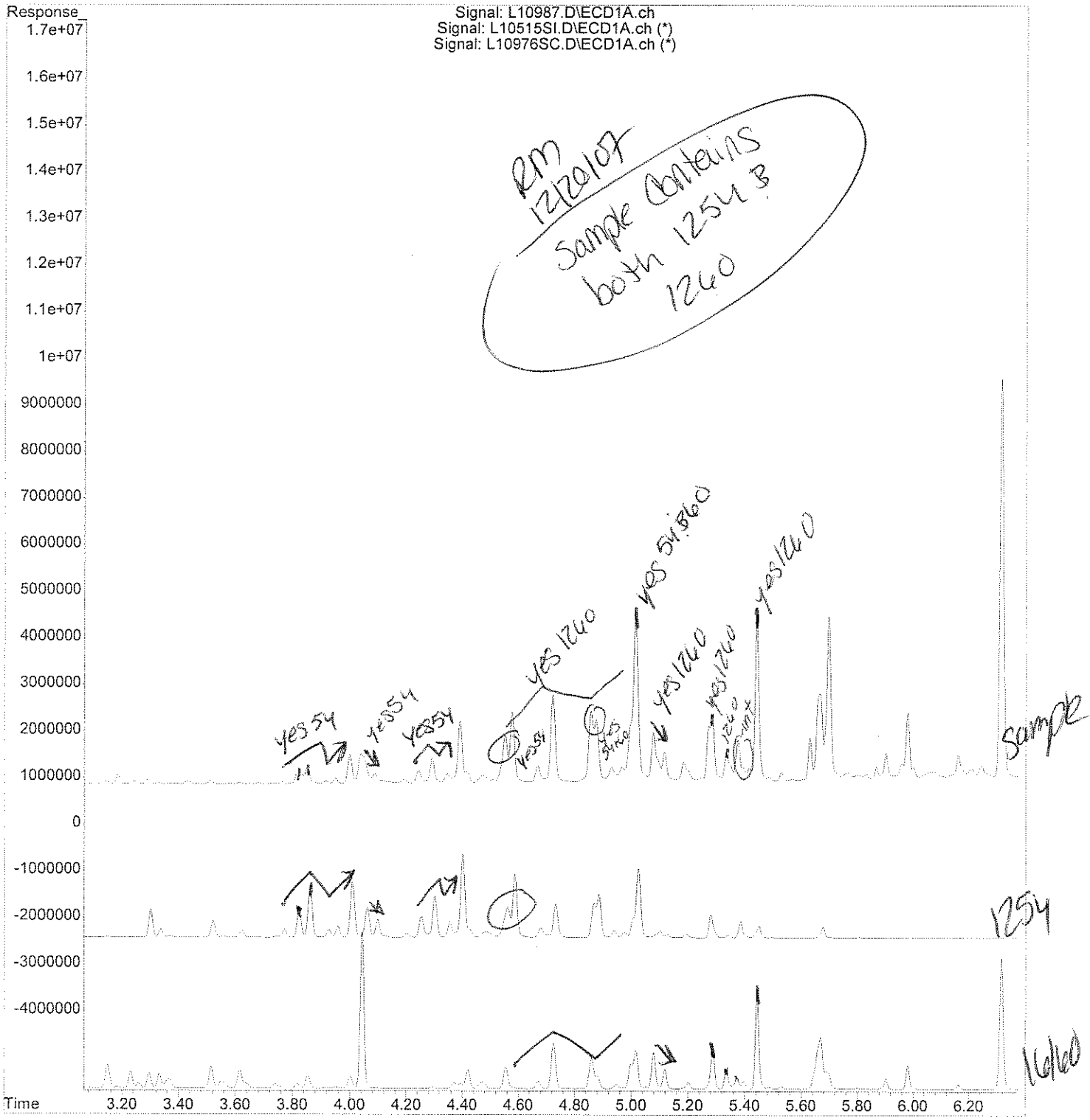
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10987.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:16 pm
Operator :
Sample : 60451-5, A/C (Sig #1); 60451-5 (Sig #2)
Misc : SOIL
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:31 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L10987.D
Operator :
Acquired : 19 Dec 07 1:16 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-5, A/C
Misc Info : SOIL
Vial Number: 27



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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-6

SAMPLE DATA

Lab Sample ID: 60451-6
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.2**
PCB-1260	0.5	**1.3**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-6, A/C
Data File: L10988.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.8	1.2	36.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-6, A/C
Data File: L10988.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.3	1.1	16.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

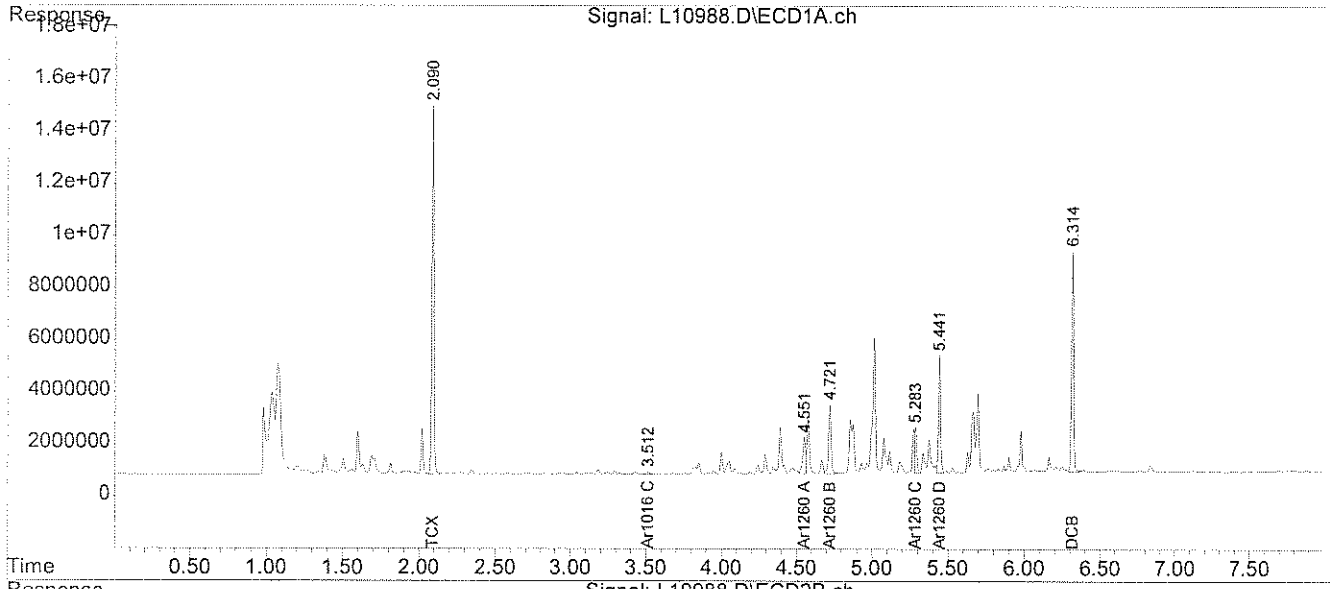
PCB FORM 10

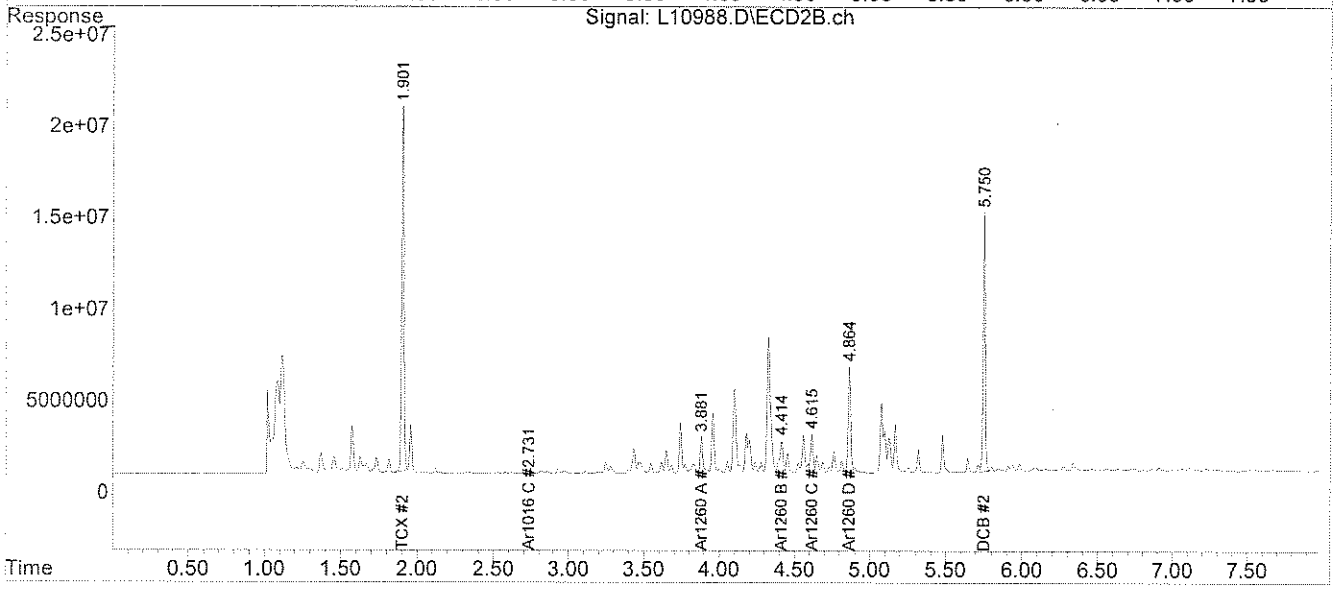
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10988.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:27 pm
Operator :
Sample : 60451-6, A/C (Sig #1); 60451-6 (Sig #2)
Misc : SOIL
ALS Vial : 28 Sample Multiplier: 1

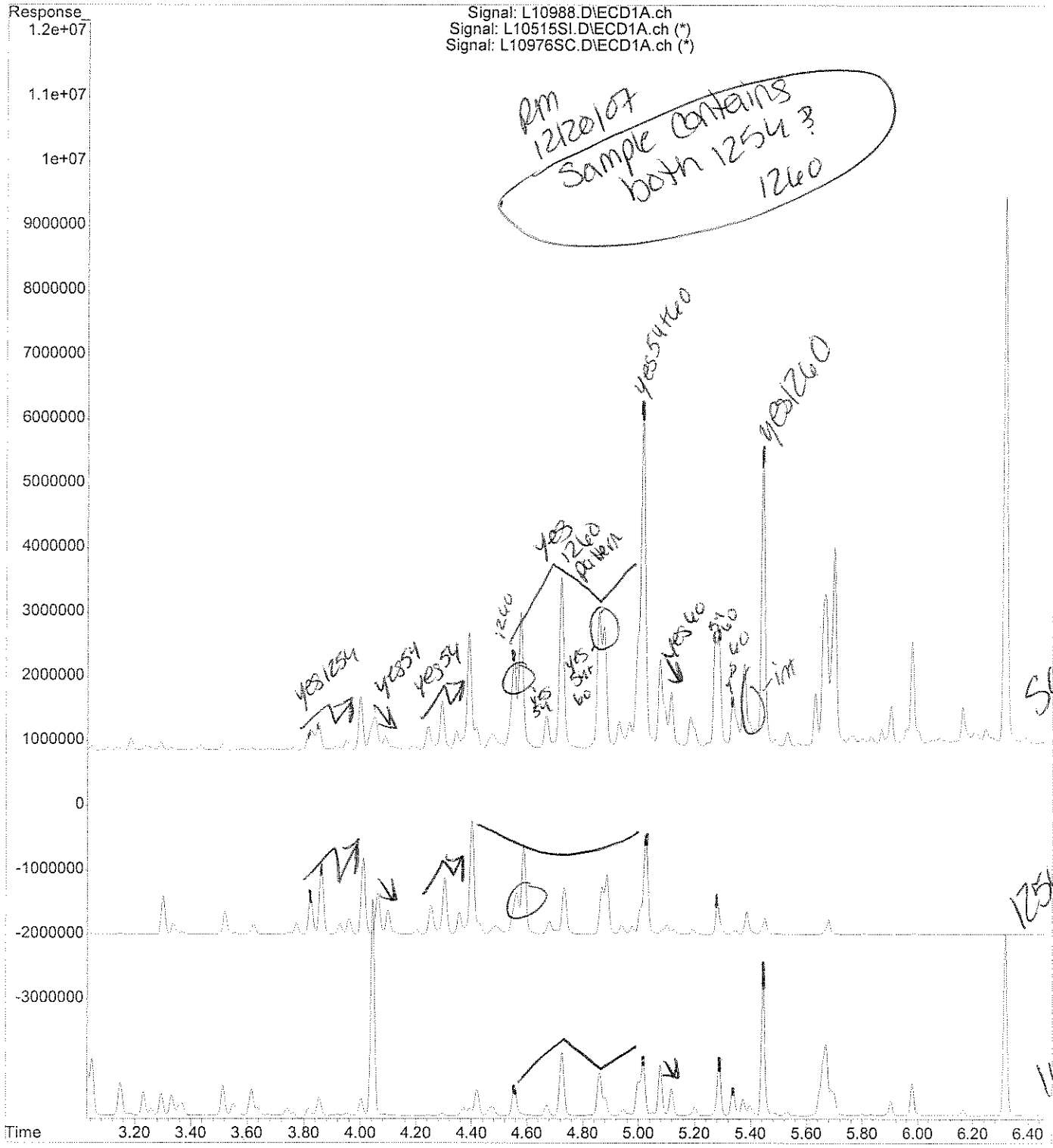
Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:33 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





File :C:\msdchem\1\DATA\121907-L\L10988.D
Operator :
Acquired : 19 Dec 07 1:27 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-6, A/C
Misc Info : SOIL
Vial Number: 28



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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-7

SAMPLE DATA

Lab Sample ID: 60451-7
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.0**
PCB-1260	0.5	**1.2**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
SDG: 60451

GC Column #1: RTX-CLPesticides I
Sample: 60451-7, A/C

Column ID: 0.32 mm
Data File: L10989.D

GC Column #2: RTX-CLPesticides II
Dilution Factor: 1.0

Column ID: 0.32 mm

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.8	1.0	23.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-7, A/C
Data File: L10989.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.2	1.0	18.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

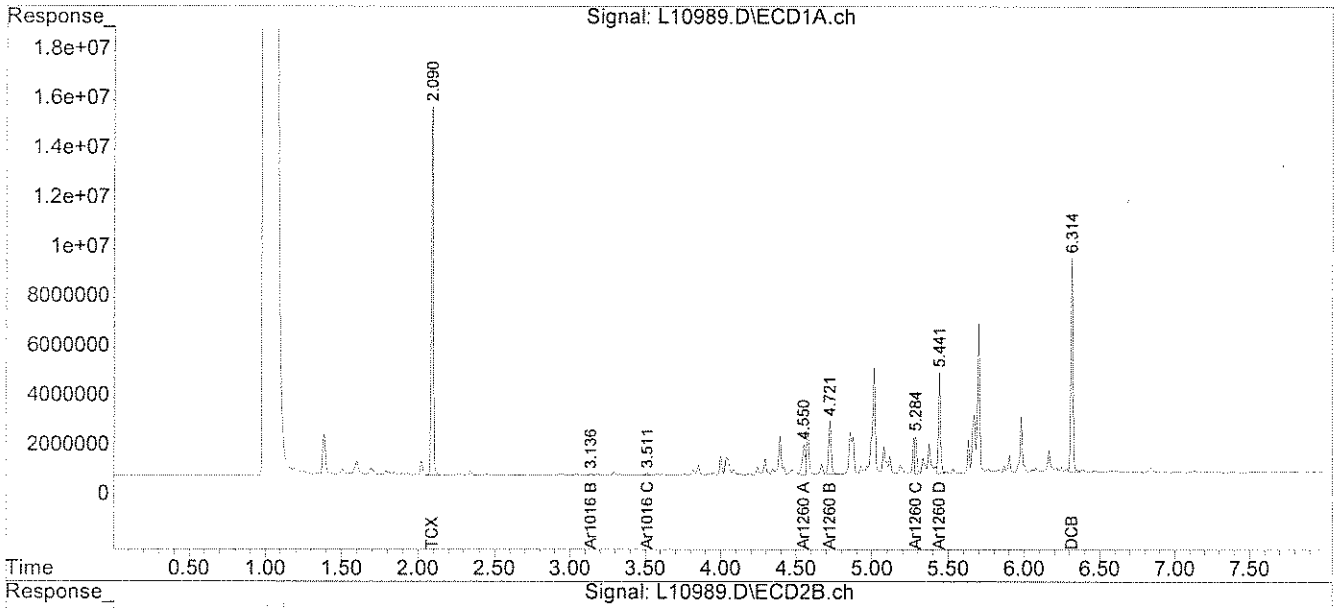
Comments: _____

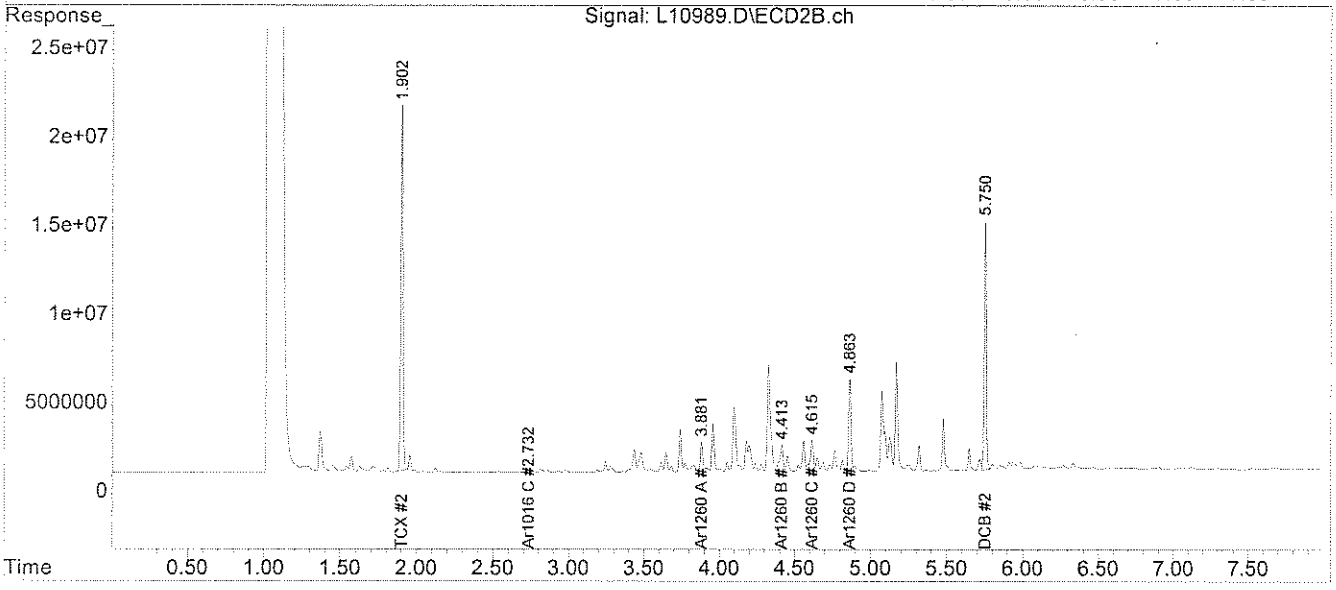
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10989.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:37 pm
Operator :
Sample : 60451-7, A/C (Sig #1); 60451-7 (Sig #2)
Misc : SOIL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:35 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



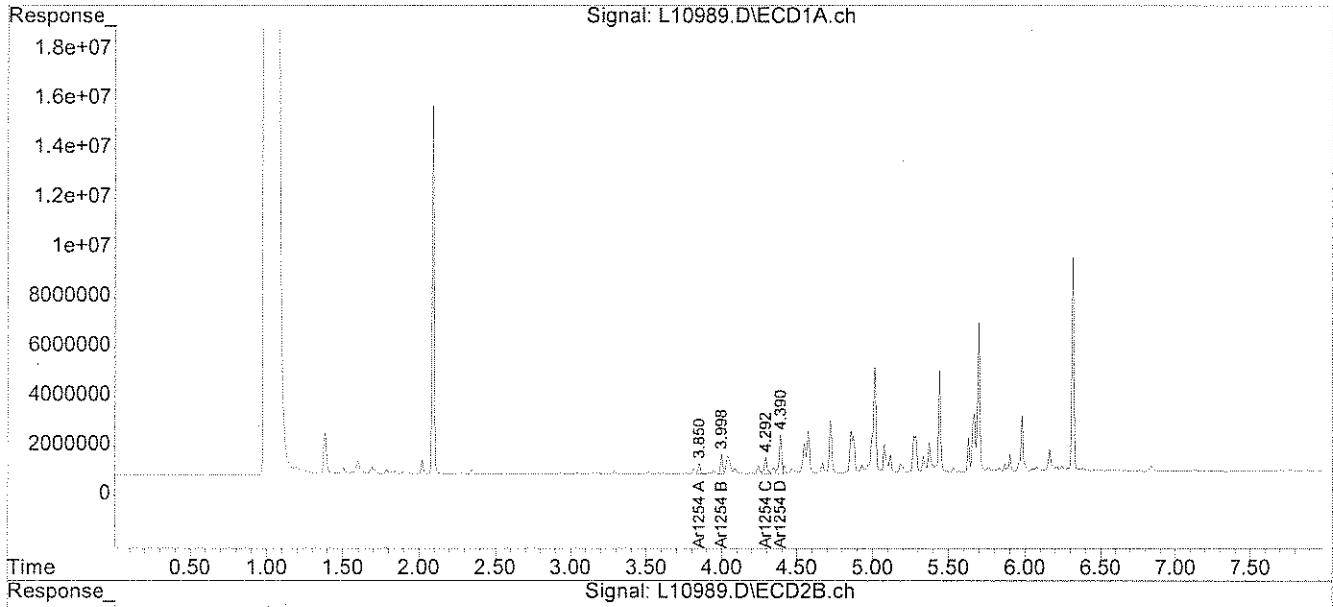


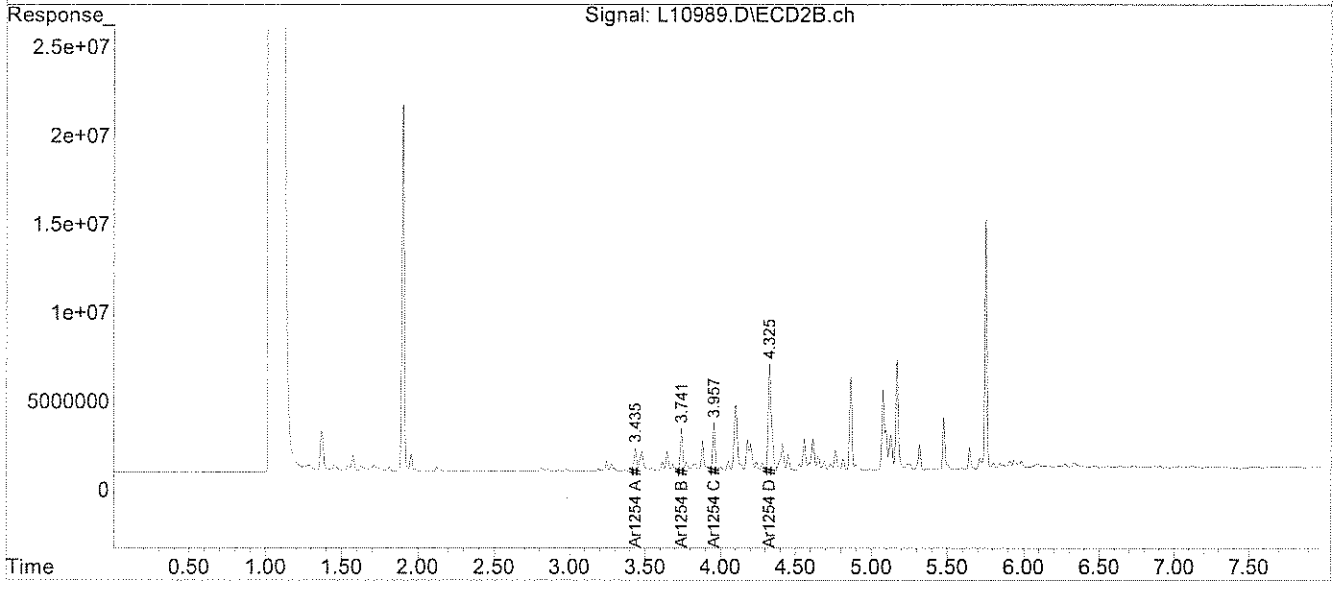
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10989.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:37 pm
Operator :
Sample : 60451-7, A/C (Sig #1); 60451-7 (Sig #2)
Misc : SOIL
ALS Vial : 29 Sample Multiplier: 1

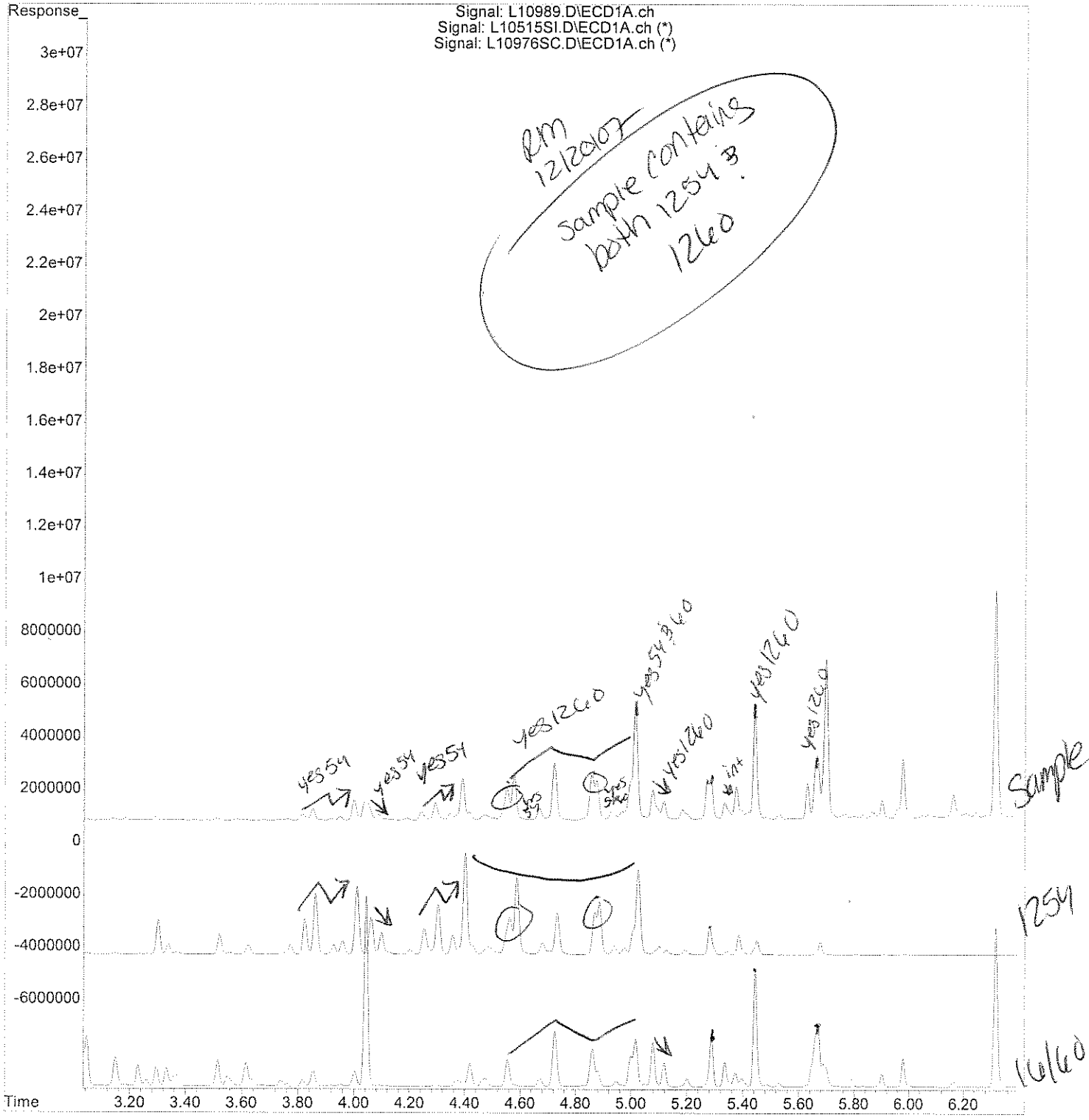
Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Dec 20 09:45:04 2007
Quant Method : C:\msdchem\1\METHODS\54SP12047.M
Quant Title :
QLast Update : Thu Dec 06 09:26:26 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





File :C:\msdchem\1\DATA\121907-L\L10989.D
Operator :
Acquired : 19 Dec 07 1:37 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-7, A/C
Misc Info : SOIL
Vial Number: 29



51.708

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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-8

SAMPLE DATA

Lab Sample ID: 60451-8
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.8**
PCB-1260	0.5	**0.8**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-8, A/C
Data File: L10990.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.6	0.8	31.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-8, A/C
Data File: L10990.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	0.8	0.7	16.7	

Column to be used to flag RPD values greater than QC limit of 40%

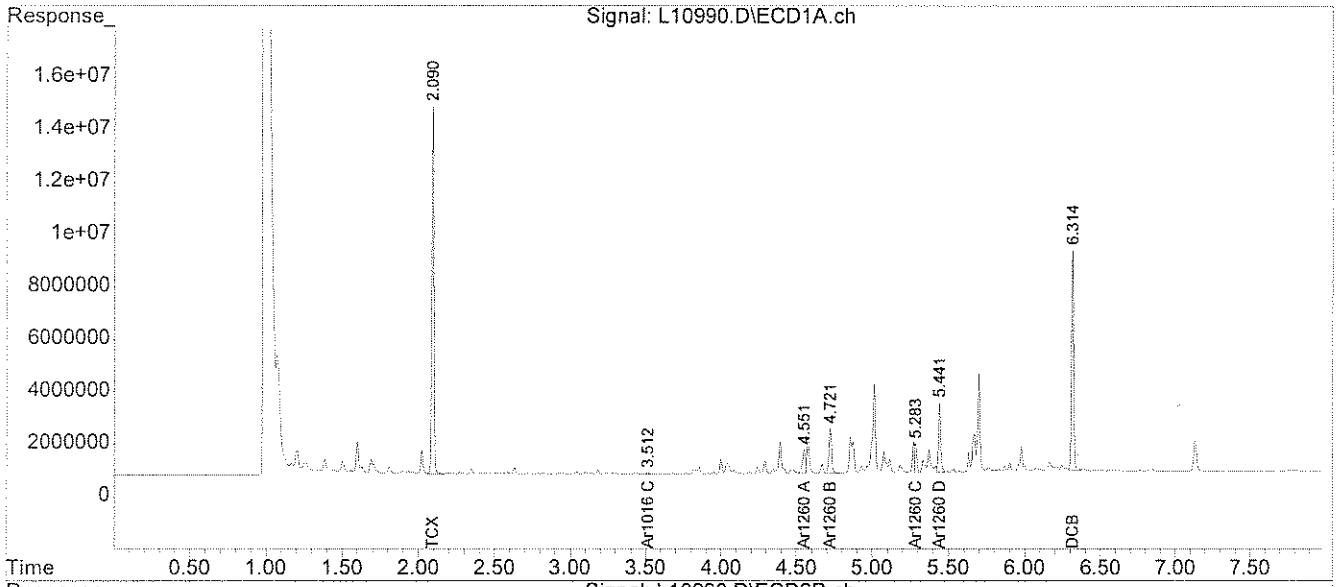
* Values outside QC limits

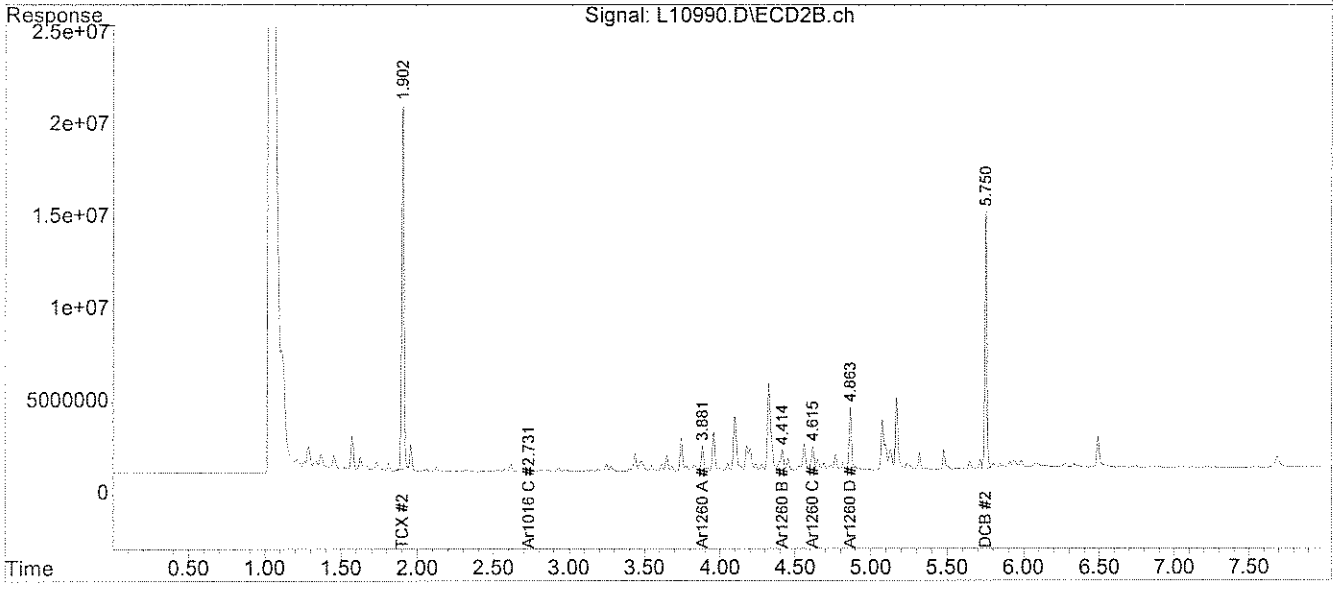
Comments: _____

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10990.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:47 pm
Operator :
Sample : 60451-8, A/C (Sig #1); 60451-8 (Sig #2)
Misc : SOIL
ALS Vial : 30 Sample Multiplier: 1

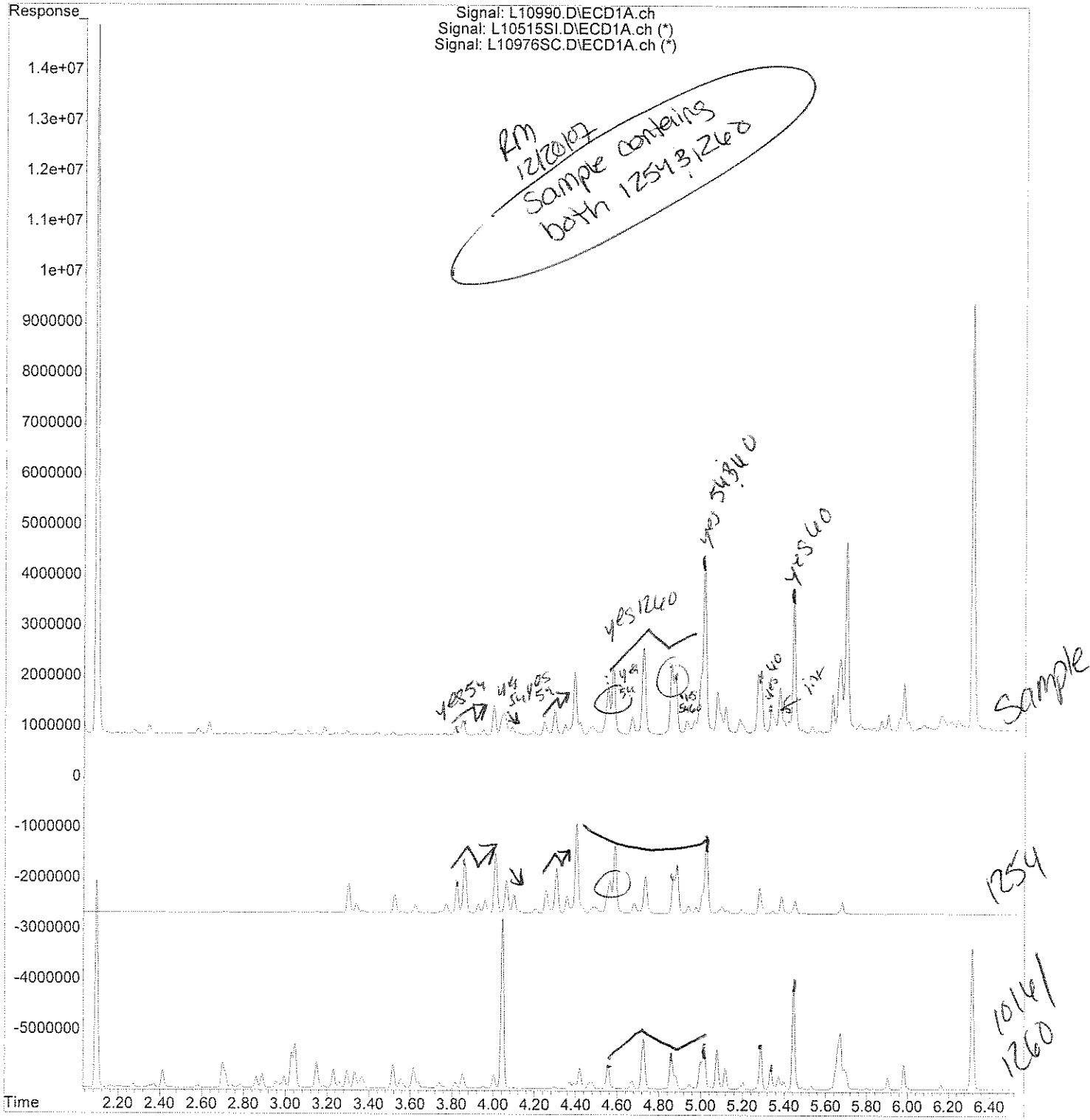
Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:37 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





File :C:\msdchem\1\DATA\121907-L\L10990.D
Operator :
Acquired : 19 Dec 07 1:47 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-8, A/C
Misc Info : SOIL
Vial Number: 30



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

February 12, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-9

SAMPLE DATA

Lab Sample ID: 60451-9
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.3 J**
PCB-1260	0.5	**0.4 J**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-9, A/C
Data File: L10991.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.3 J	0.3 J	5.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-9, A/C
Data File: L10991.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	0.4	0.3	34.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

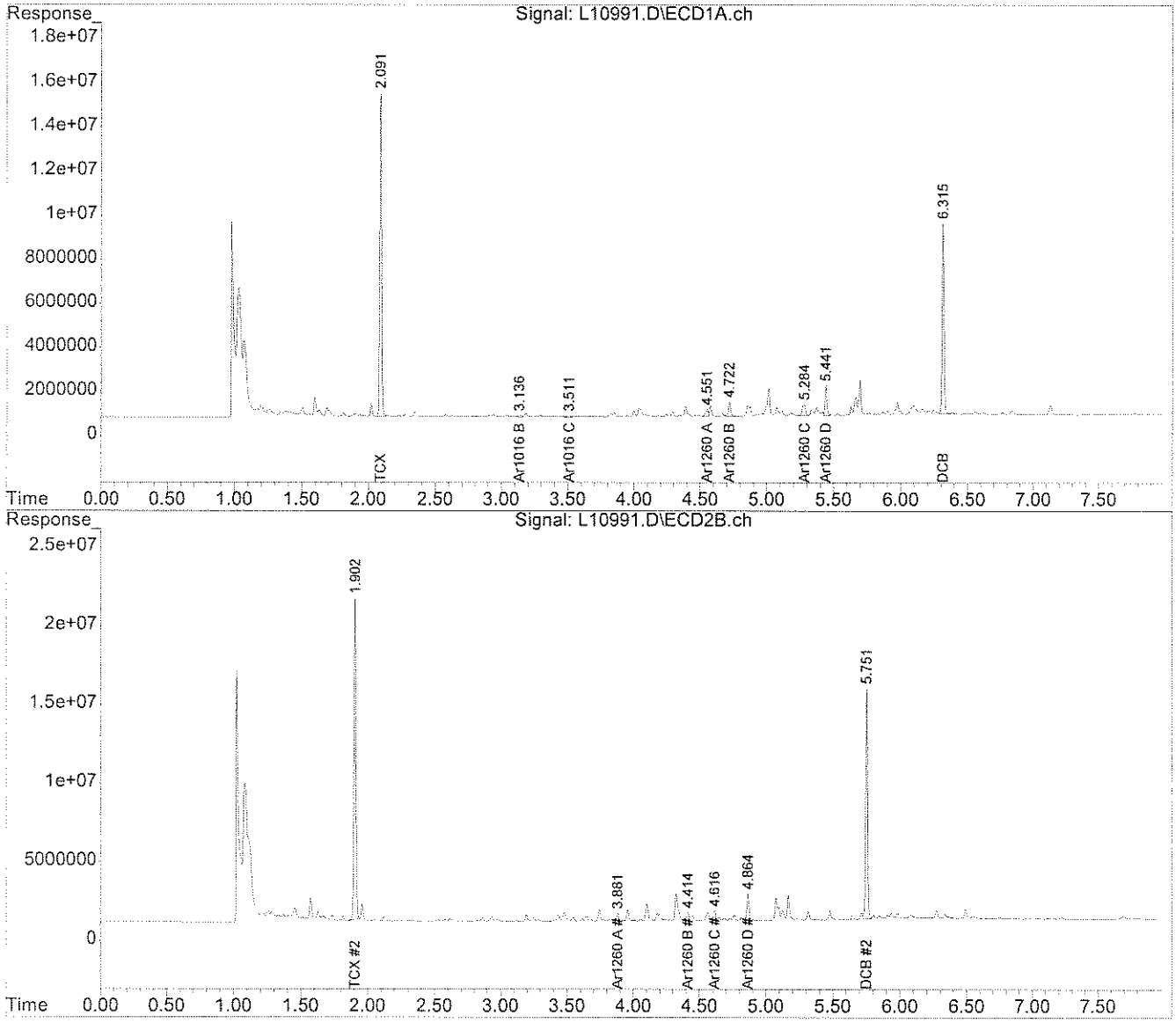
Comments: _____

Quantitation Report (Not Reviewed)

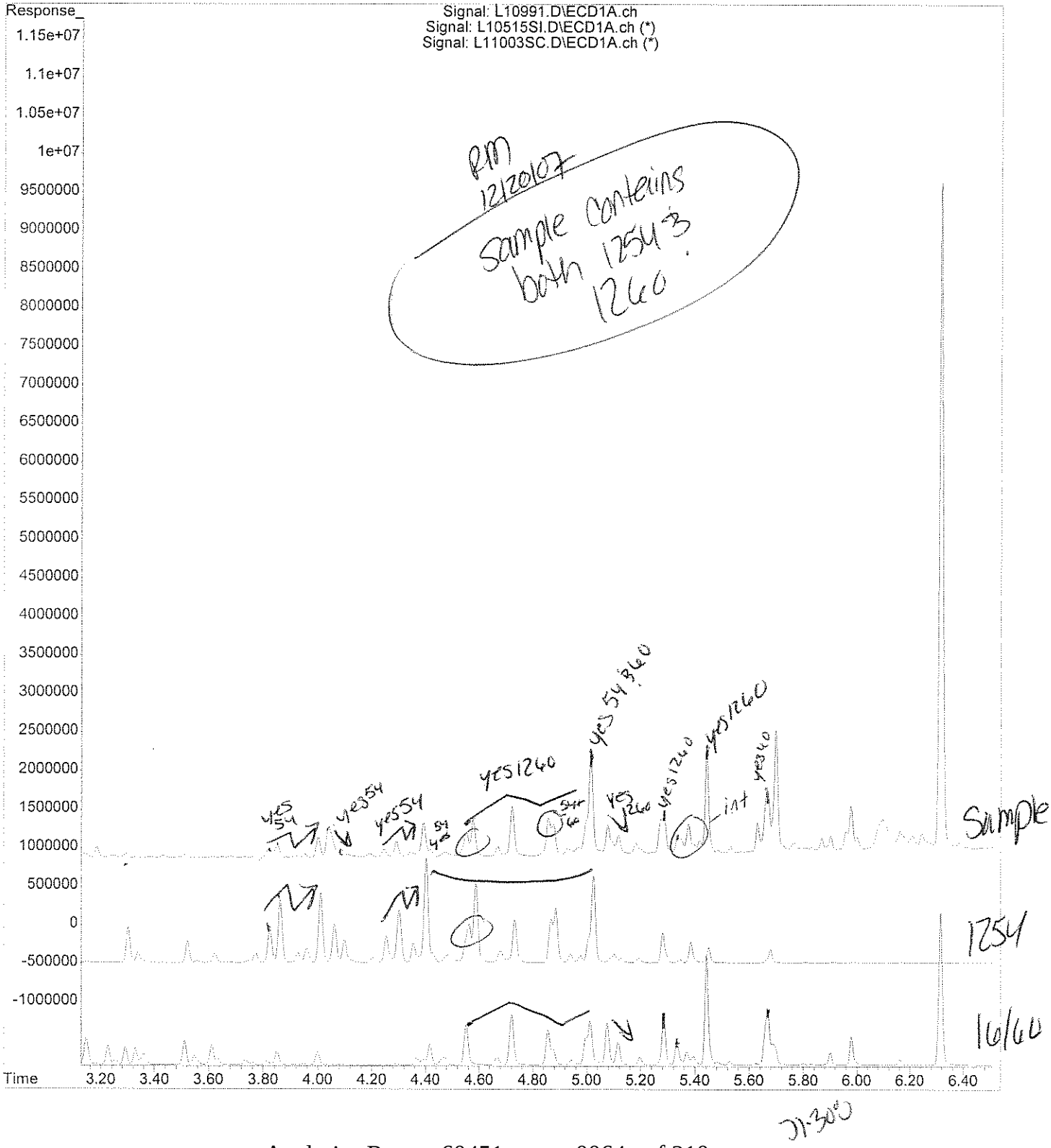
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10991.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 1:58 pm
Operator :
Sample : 60451-9, A/C (Sig #1); 60451-9 (Sig #2)
Misc : SOIL
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:39 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File : C:\msdchem\1\DATA\121907-L\L10991.D
Operator :
Acquired : 19 Dec 07 1:58 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-9, A/C
Misc Info : SOIL
Vial Number: 31



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-10

SAMPLE DATA

Lab Sample ID: 60451-10
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.7**
PCB-1260	0.5	**0.9**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-10, A/C
Data File: L10992.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.5	0.7	24.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-10, A/C
Data File: L10992.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	0.9	0.7	22.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

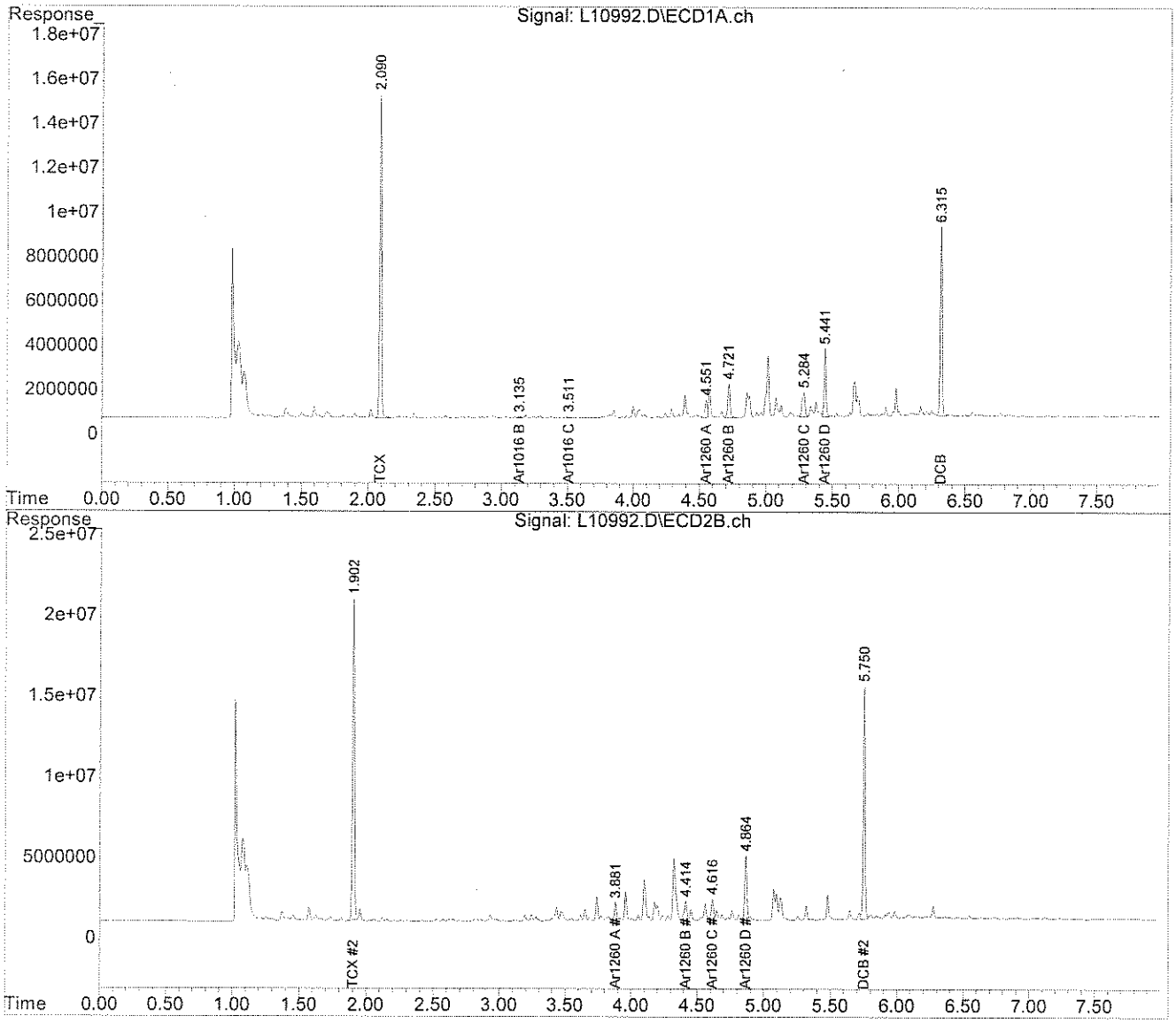
Comments: _____

Quantitation Report (Not Reviewed)

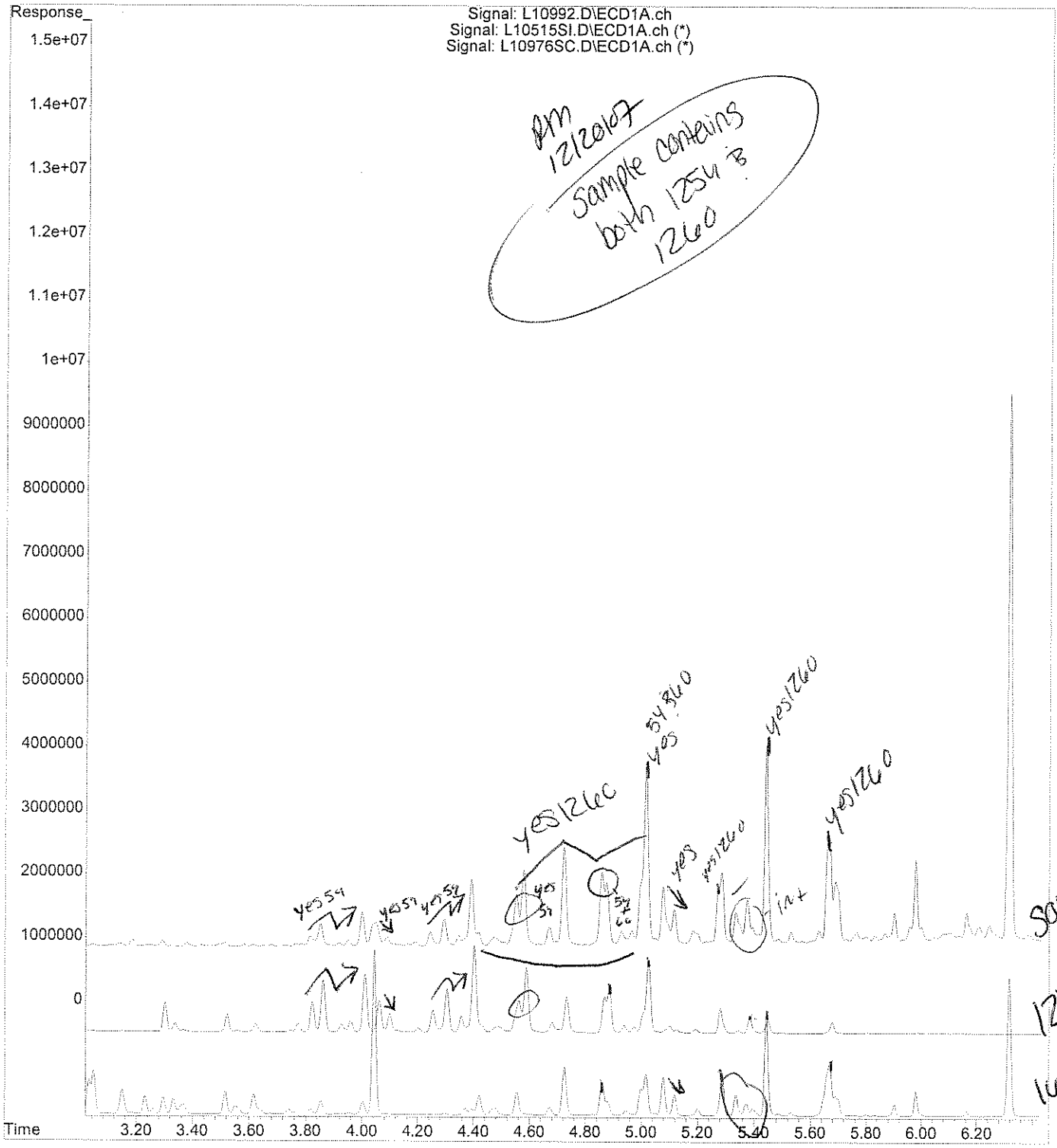
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10992.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 2:08 pm
Operator :
Sample : 60451-10, A/C (Sig #1); 60451-10 (Sig #2)
Misc : SOIL
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 19 14:24:41 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L10992.D
Operator :
Acquired : 19 Dec 07 2:08 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-10, A/C
Misc Info : SOIL
Vial Number: 32



D1308

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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-11

SAMPLE DATA

Lab Sample ID: 60451-11
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.5**
PCB-1260	0.5	**1.3**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	84	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-11, A/C
Data File: L10993.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.3	1.5	12.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-11, A/C
Data File: L10993.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.3	1.0	25.9	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

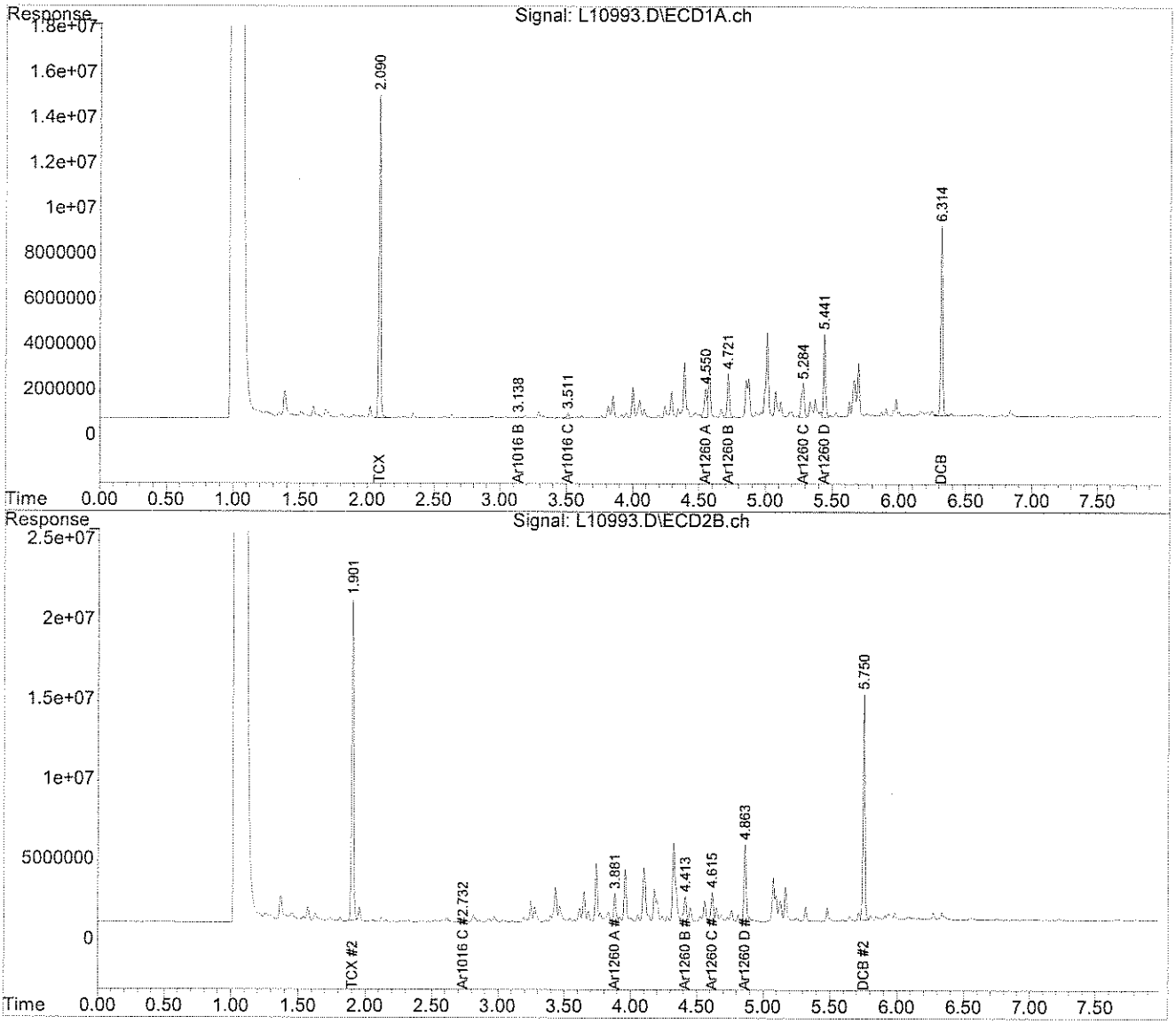
Comments: _____

Quantitation Report (Not Reviewed)

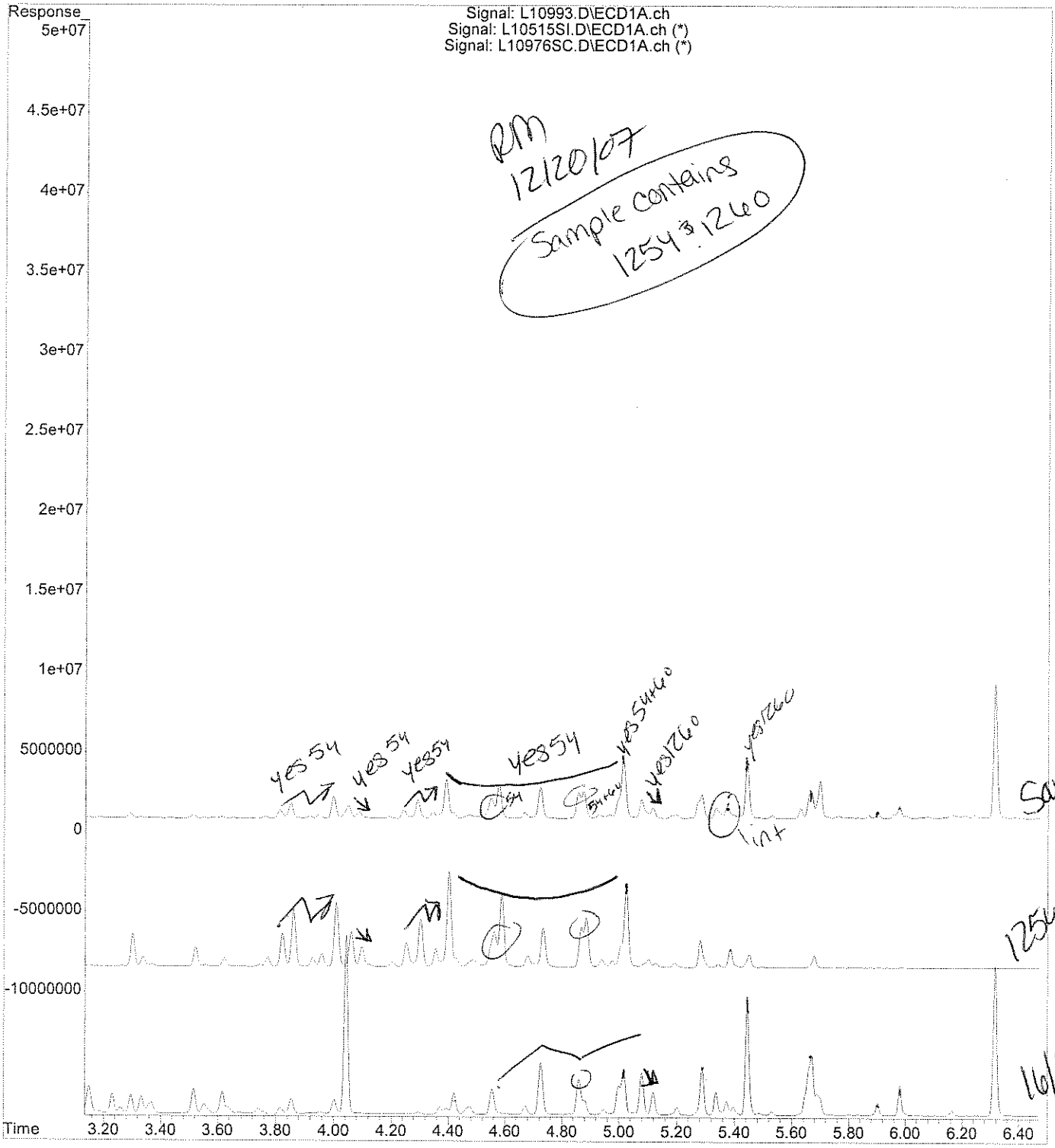
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10993.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 2:18 pm
Operator :
Sample : 60451-11, A/C
Misc : SOIL
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:44 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File : C:\msdchem\1\DATA\121907-L\L10993.D
Operator :
Acquired : 19 Dec 07 2:18 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-11, A/C
Misc Info : SOIL
Vial Number: 33



J1-308

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Mr. Rob Klein
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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-12

SAMPLE DATA

Lab Sample ID: 60451-12
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.5**
PCB-1260	0.5	**1.9**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-12, A/C
Data File: L10994.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.1	1.5	34.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-12, A/C
Data File: L10994.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.9	1.4	27.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

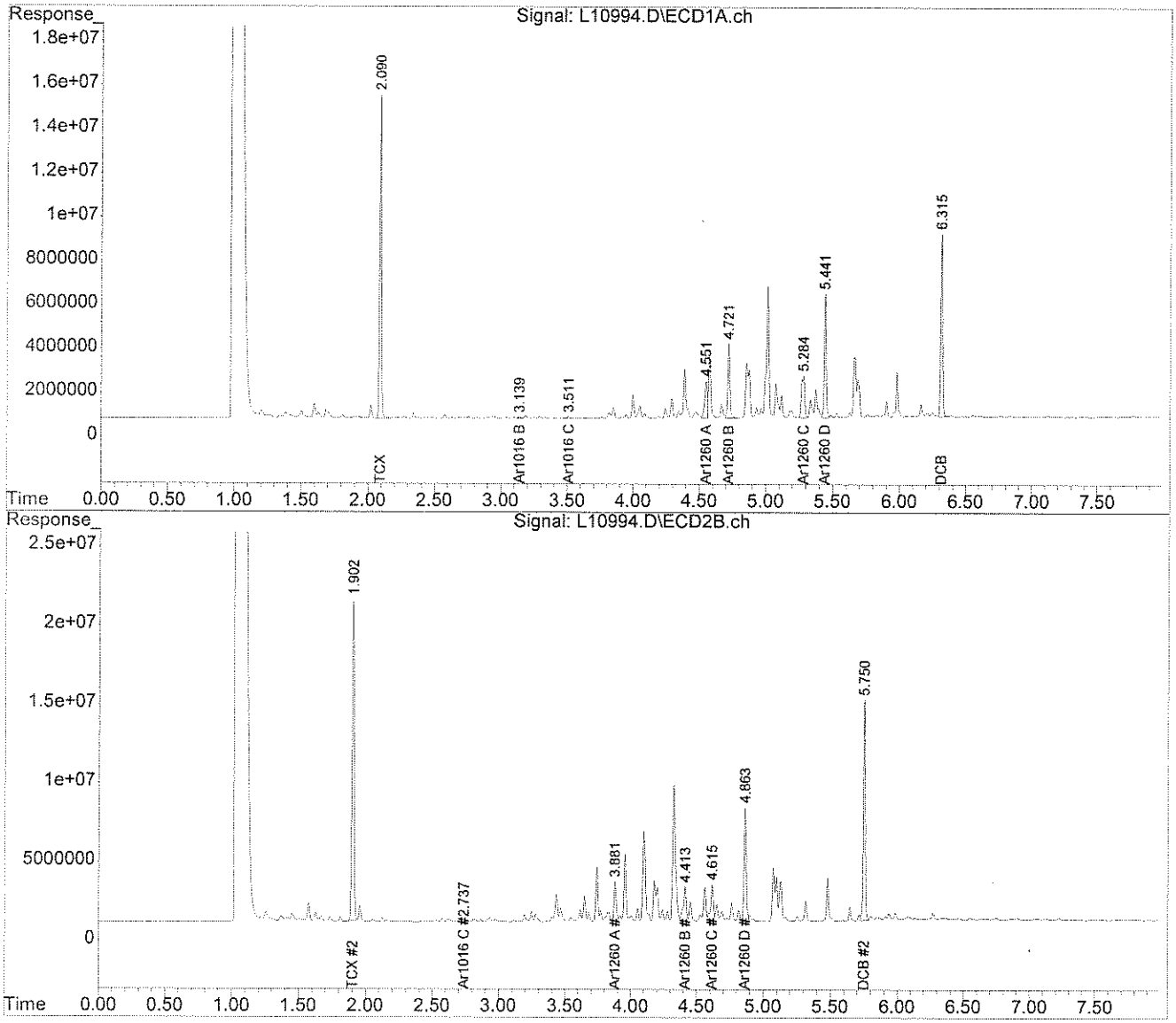
Comments: _____

Quantitation Report (Not Reviewed)

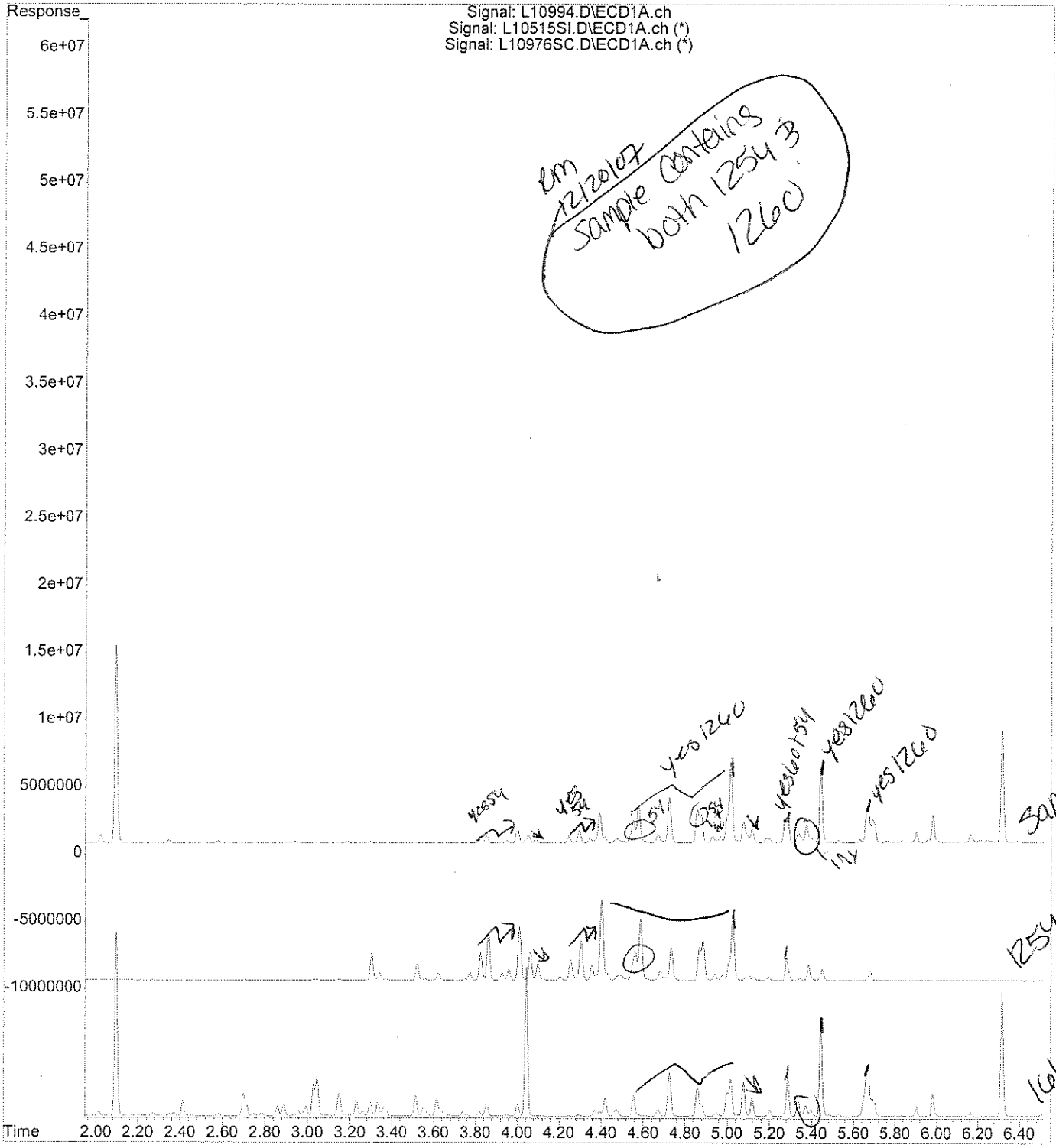
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10994.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 2:28 pm
Operator :
Sample : 60451-12, A/C
Misc : SOIL
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:47 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L10994.D
Operator :
Acquired : 19 Dec 07 2:28 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-12, A/C
Misc Info : SOIL
Vial Number: 34



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-13

SAMPLE DATA

Lab Sample ID: 60451-13
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.7**
PCB-1260	0.5	**1.8**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-13, A/C
Data File: L10995.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.2	1.7	32.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-13, A/C
Data File: L10995.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.8	1.6	16.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

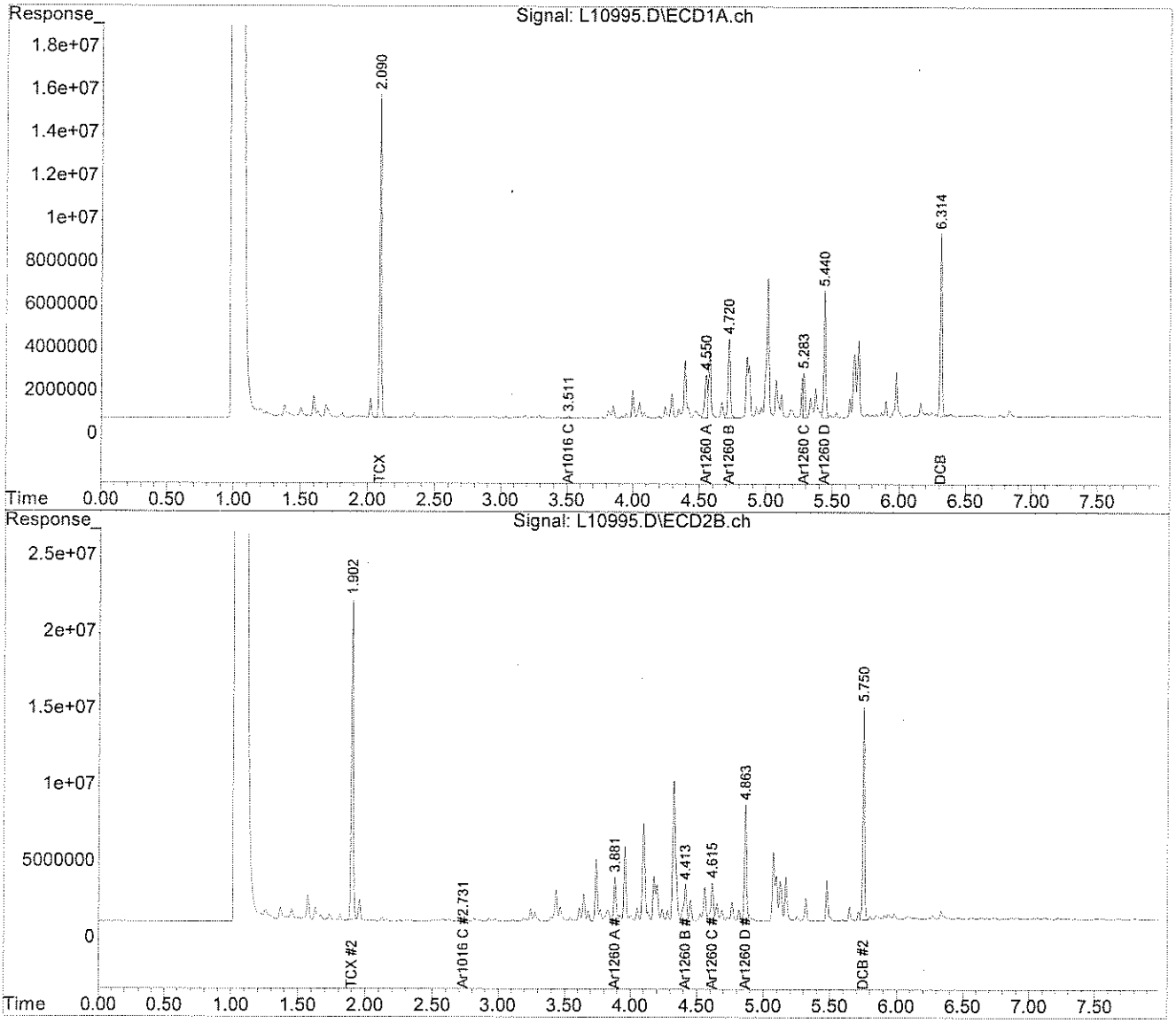
Comments: _____

Quantitation Report (Not Reviewed)

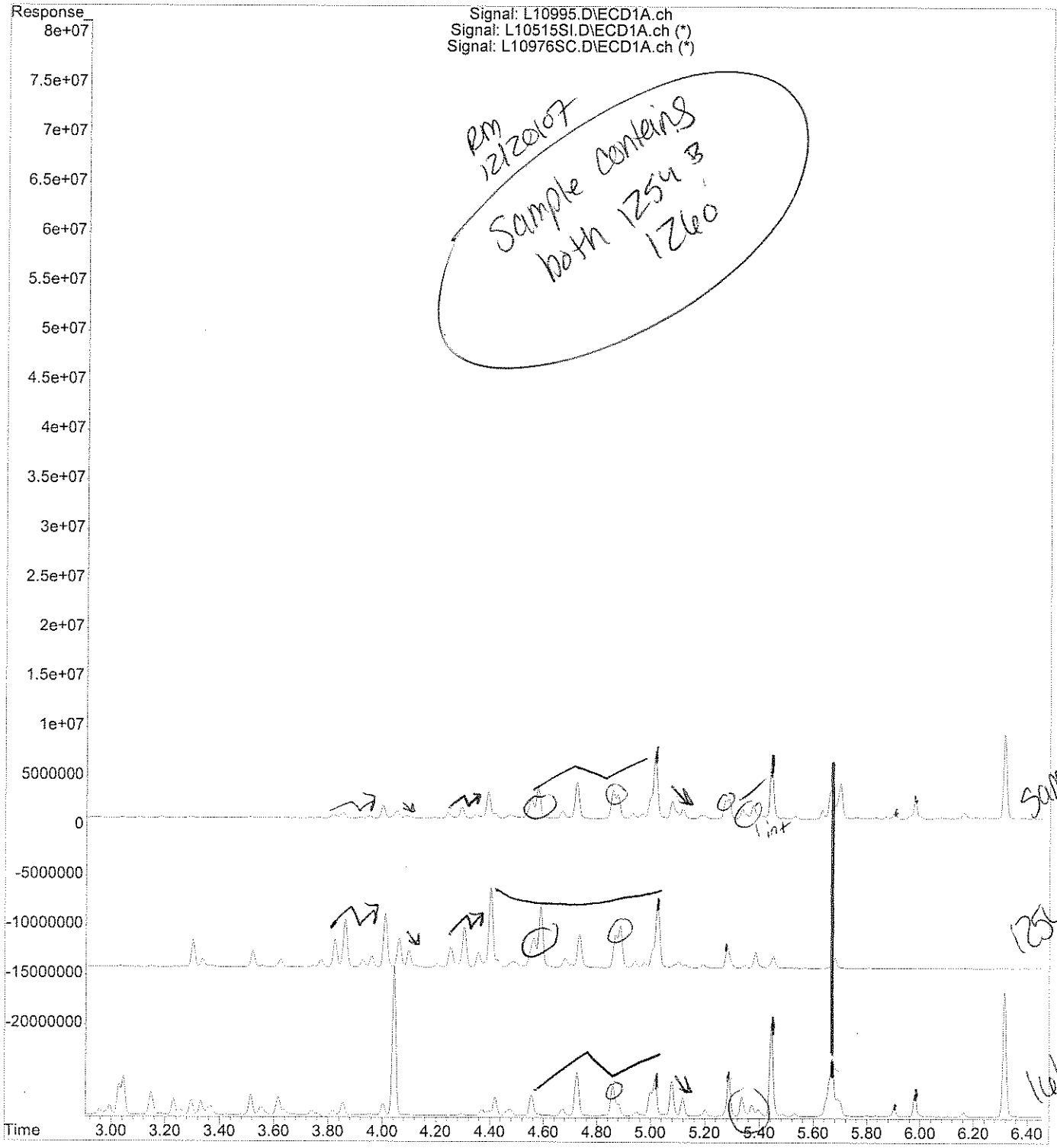
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10995.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 2:38 pm
Operator :
Sample : 60451-13, A/C
Misc : SOIL
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:49 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L10995.D
Operator :
Acquired : 19 Dec 07 2:38 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-13, A/C
Misc Info : SOIL
Vial Number: 35



J1-306

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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-14

SAMPLE DATA

Lab Sample ID: 60451-14
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.5**
PCB-1260	0.5	**1.4**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	78	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
SDG: 60451

GC Column #1: RTX-CLPesticides I
Sample: 60451-14, A/C

Column ID: 0.32 mm
Data File: L10996.D

GC Column #2: RTX-CLPesticides II
Dilution Factor: 1.0

Column ID: 0.32 mm

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.4	1.5	5.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-14, A/C
Data File: L10996.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.4	1.1	23.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

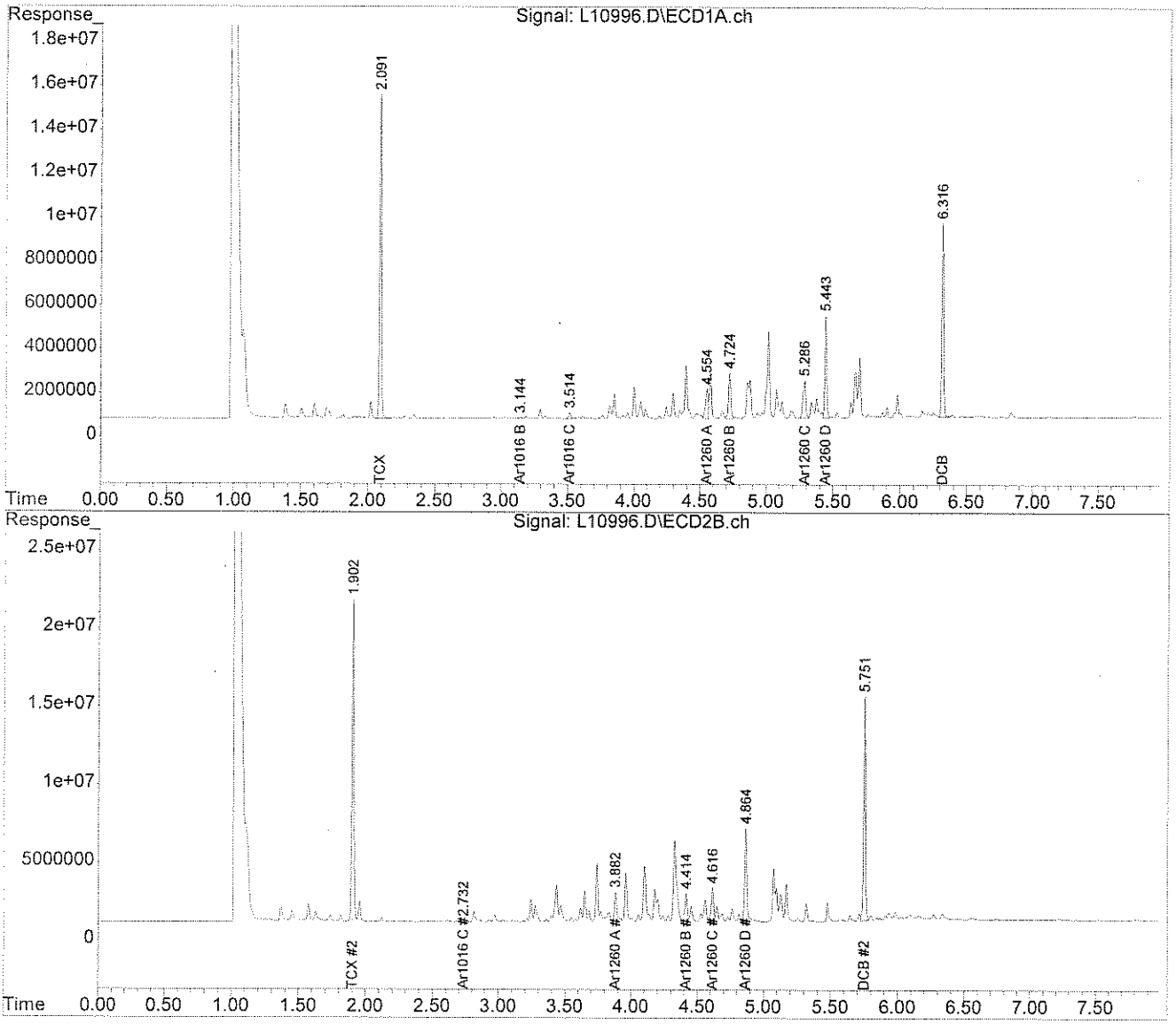
Comments: _____

Quantitation Report (Not Reviewed)

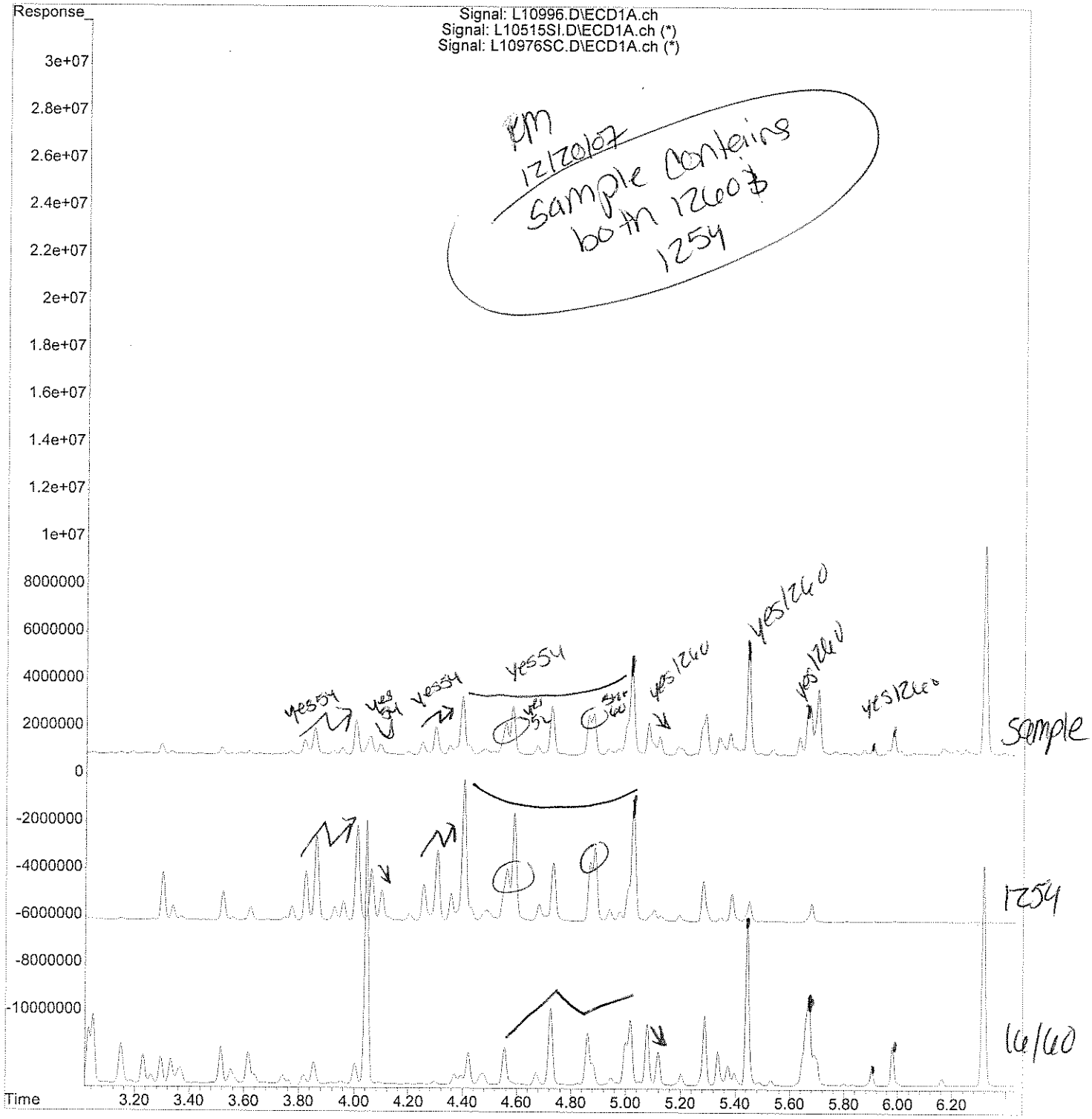
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10996.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 3:16 pm
Operator :
Sample : 60451-14, A/C
Misc : SOIL
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:51 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L10996.D
Operator :
Acquired : 19 Dec 07 3:16 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-14, A/C
Misc Info : SOIL
Vial Number: 36



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-15

SAMPLE DATA

Lab Sample ID: 60451-15
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.1**
PCB-1260	0.5	**1.2**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature M Lindell

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-15, A/C
Data File: L10997.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.8	1.1	35.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-15, A/C
Data File: L10997.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.2	1.0	16.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

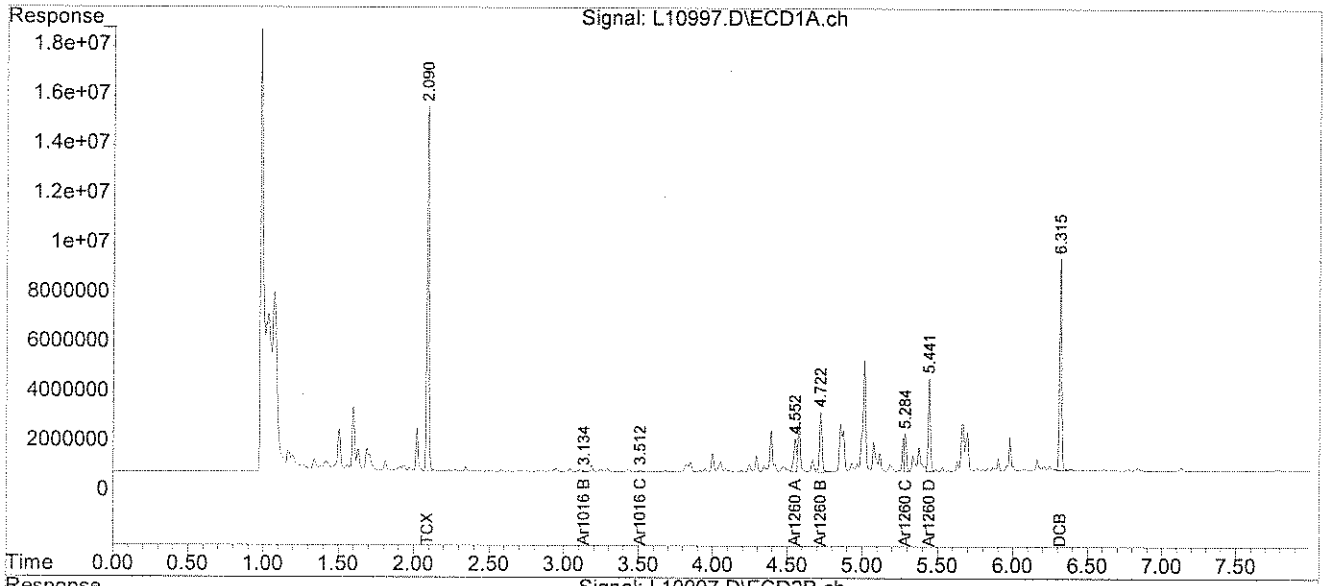
Comments: _____

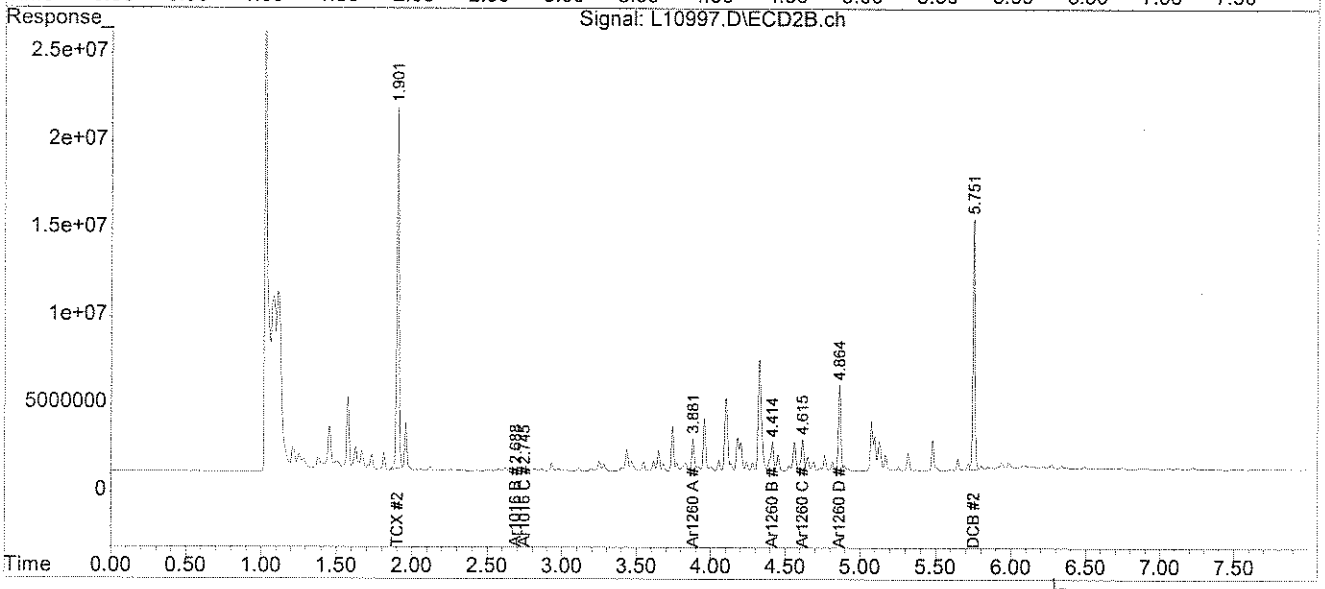
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10997.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 3:26 pm
Operator :
Sample : 60451-15, A/C
Misc : SOIL
ALS Vial : 37 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:53 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





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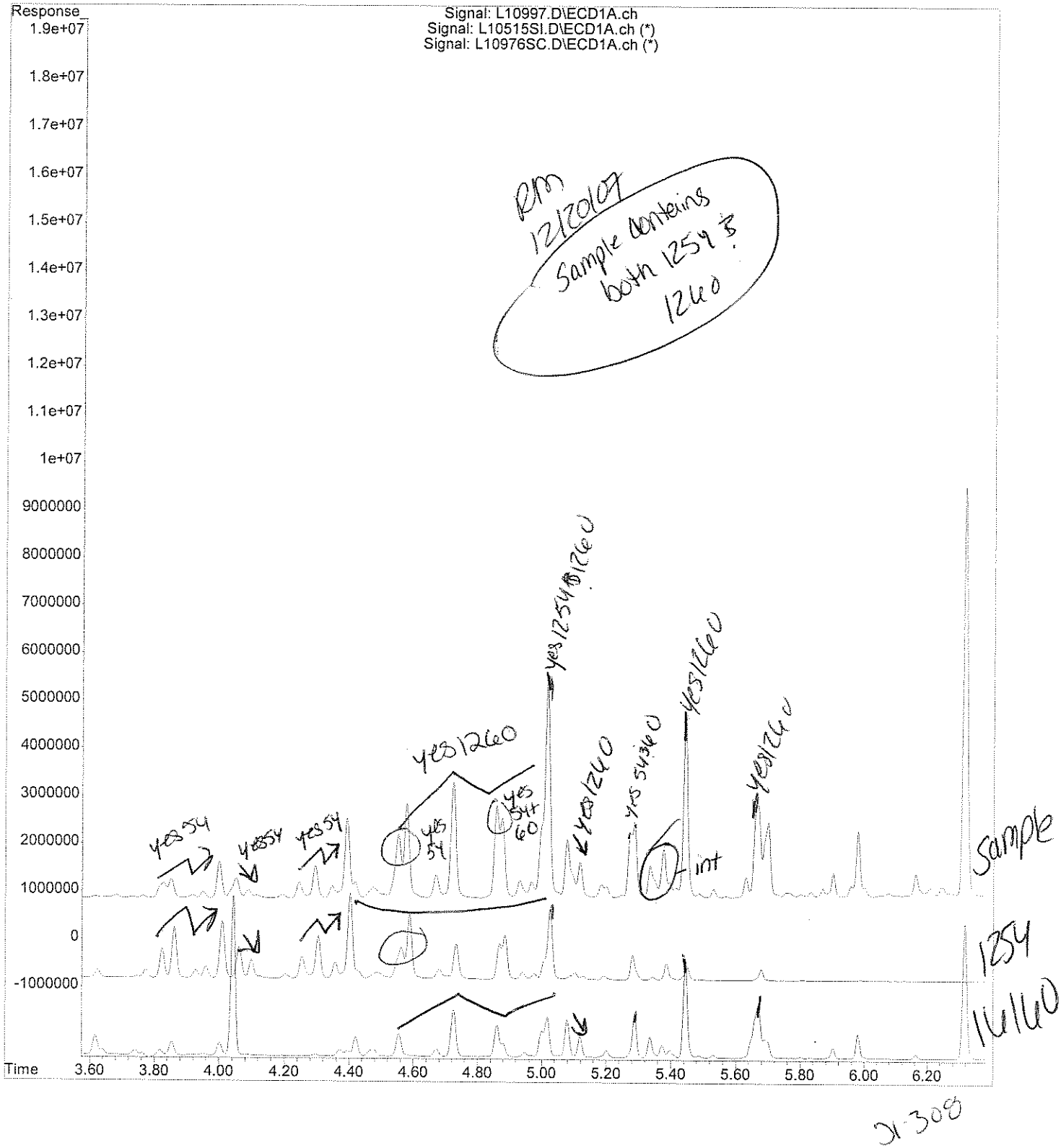
```
File        :C:\msdchem\1\DATA\121907-L\L10997.D
Operator    :
Acquired    : 19 Dec 07    3:26 pm using AcqMethod PEST.M
Instrument :    Inst L
Sample Name: 60451-15, A/C
Misc Info   : SOIL
Vial Number: 37
```



21-309

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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-16

SAMPLE DATA

Lab Sample ID: 60451-16
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.1**
PCB-1260	0.5	**1.6**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	81	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-16, A/C
Data File: L10998.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.8	1.1	32.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-16, A/C
Data File: L10998.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.6	1.2	26.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

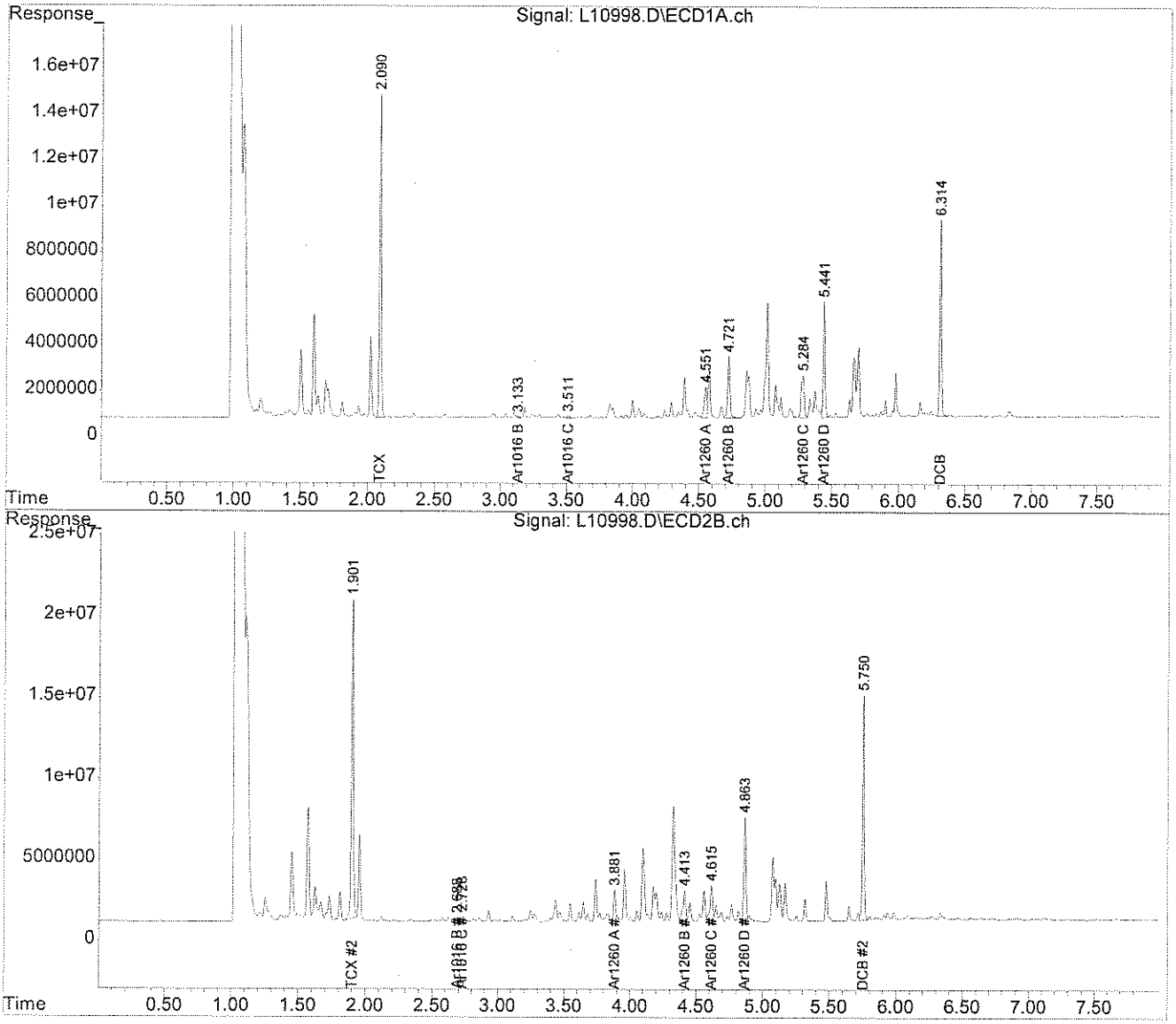
PCB FORM 10

Quantitation Report (Not Reviewed)

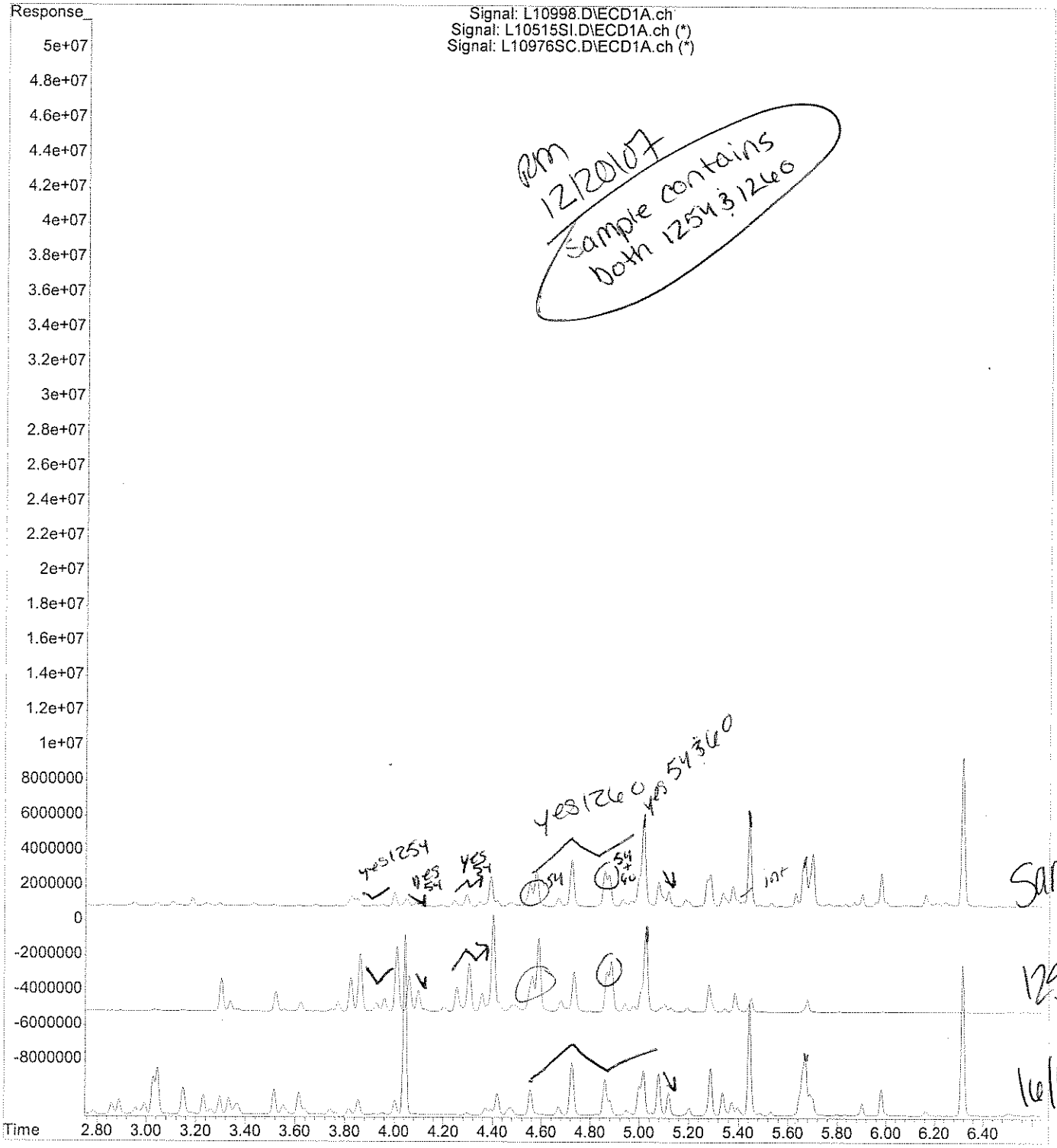
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10998.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 3:36 pm
Operator :
Sample : 60451-16, A/C
Misc : SOIL
ALS Vial : 38 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:55 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File : C:\msdchem\1\DATA\121907-L\L10998.D
Operator :
Acquired : 19 Dec 07 3:36 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-16, A/C
Misc Info : SOIL
Vial Number: 38



D1.305

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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-17

SAMPLE DATA

Lab Sample ID: 60451-17
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.8**
PCB-1260	0.5	**1.1**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	79	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
SDG: 60451

GC Column #1: RTX-CLPesticides I
Sample: 60451-17, A/C

Column ID: 0.32 mm
Data File: L10999.D

GC Column #2: RTX-CLPesticides II
Dilution Factor: 1.0

Column ID: 0.32 mm

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.6	0.8	28.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-17, A/C
Data File: L10999.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.1	1.0	10.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

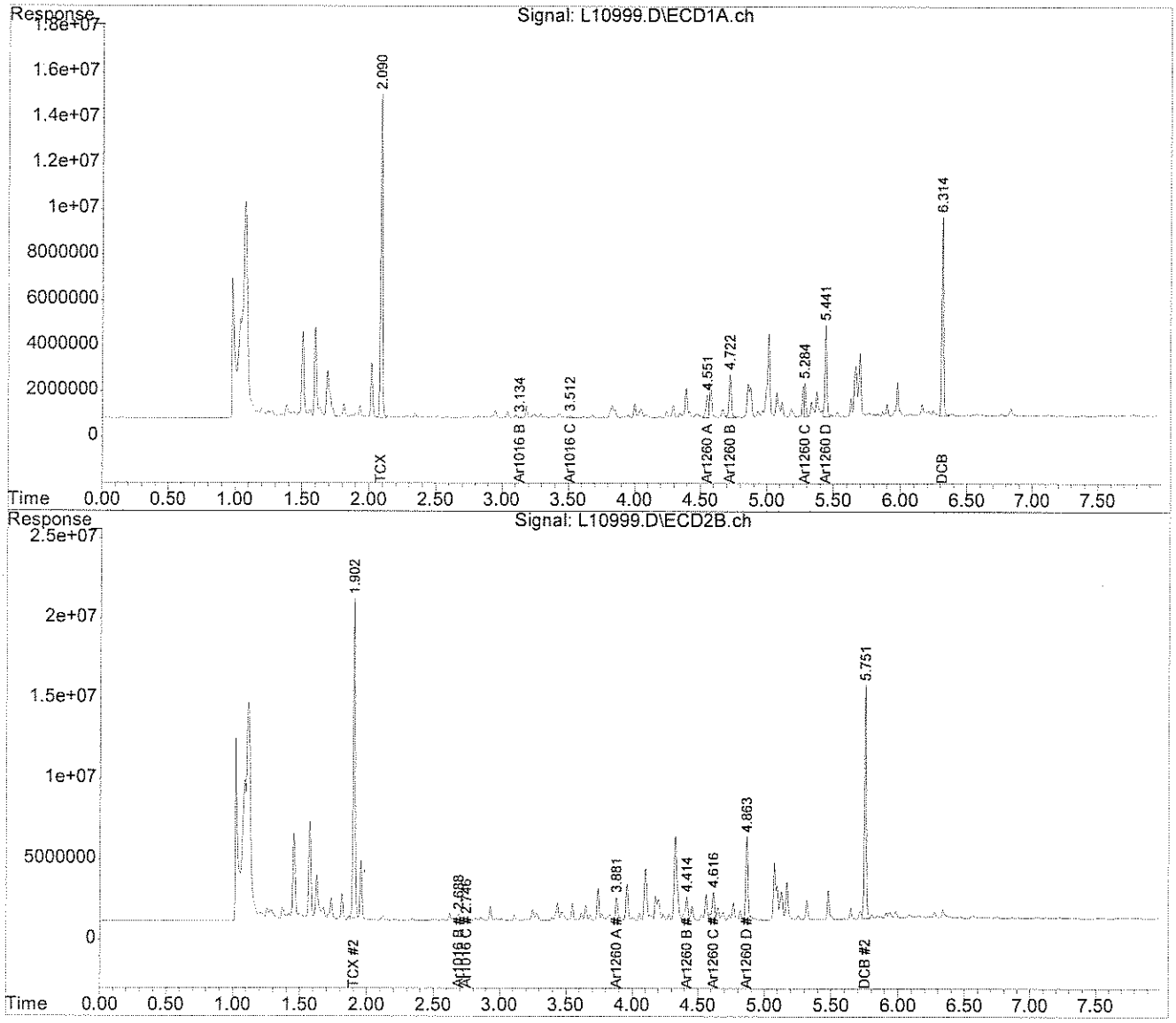
Comments: _____

Quantitation Report (Not Reviewed)

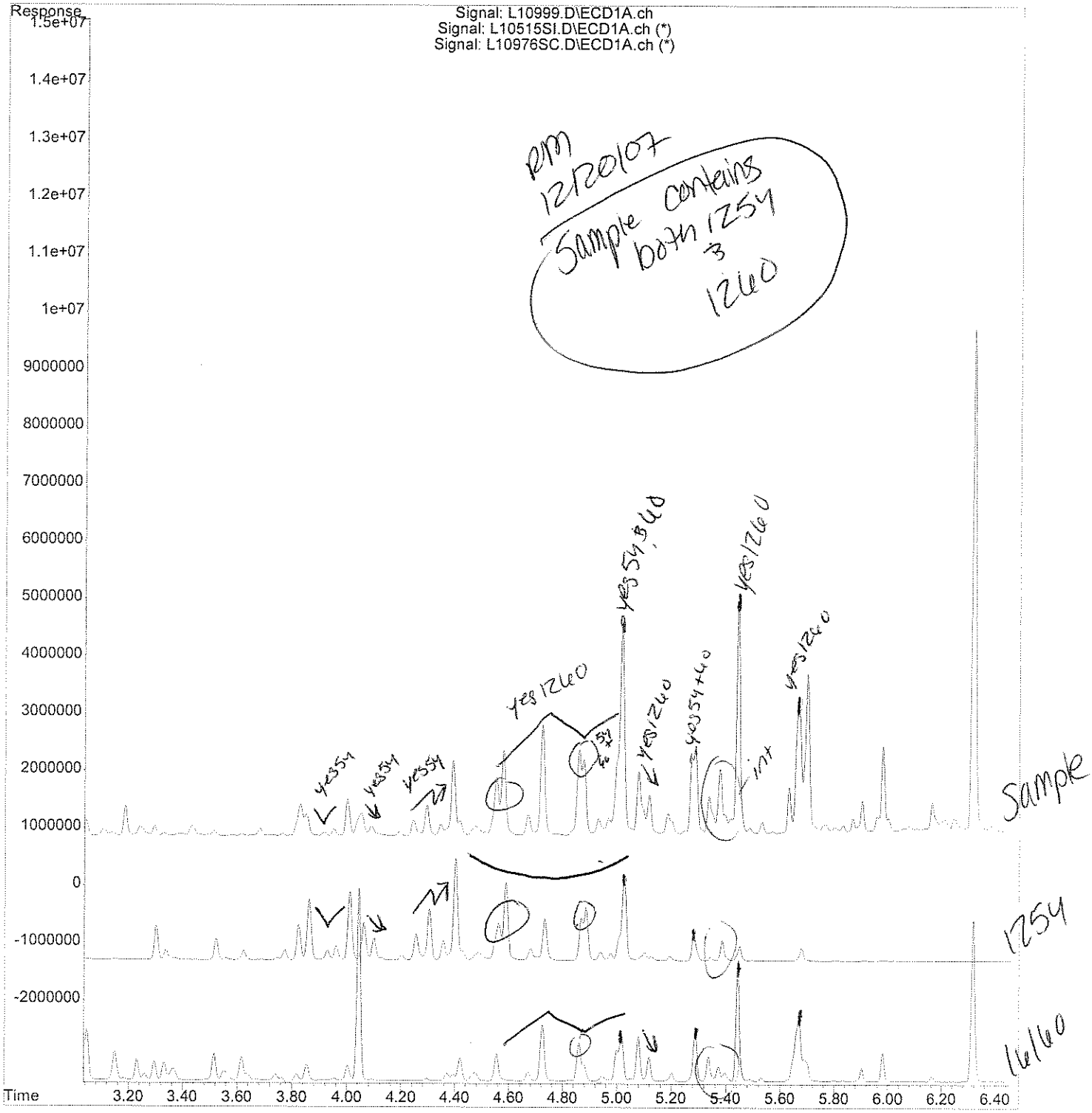
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L10999.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 3:47 pm
Operator :
Sample : 60451-17, A/C
Misc : SOIL
ALS Vial : 39 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:08:57 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L10999.D
Operator :
Acquired : 19 Dec 07 3:47 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-17, A/C
Misc Info : SOIL
Vial Number: 39



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Mr. Rob Klein
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135 College Street
New Haven CT 06510

December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-18

SAMPLE DATA

Lab Sample ID: 60451-18
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.9**
PCB-1260	0.5	**2.1**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-18, A/C
Data File: L11000.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.3	1.9	34.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-18, A/C
Data File: L11000.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	2.1	1.8	16.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

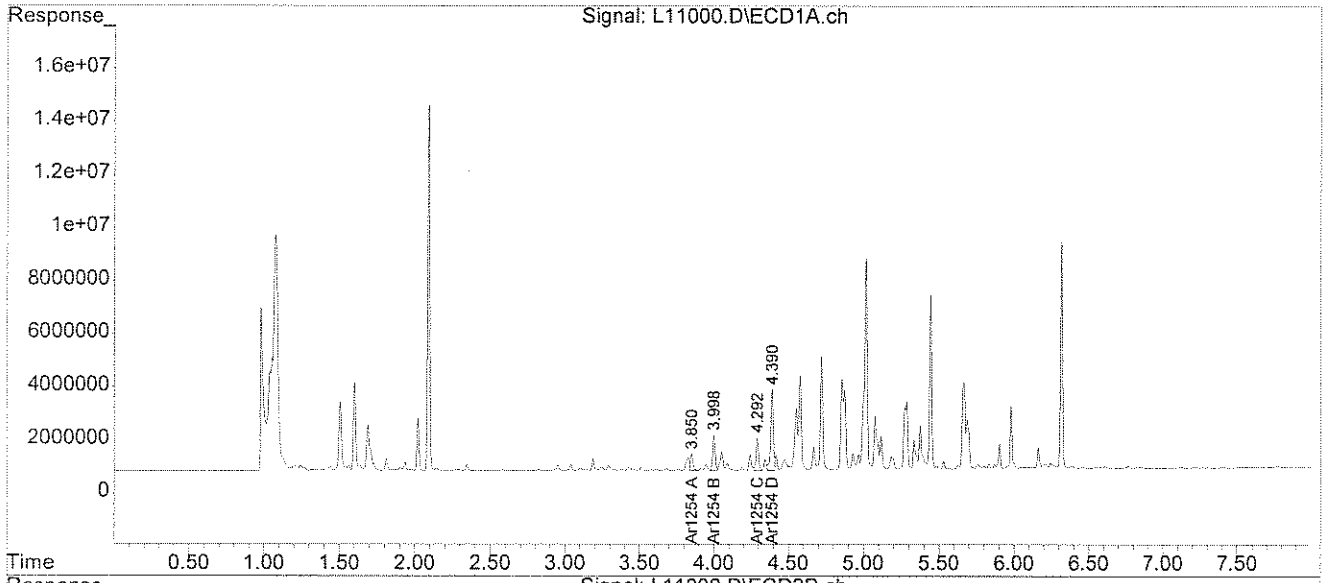
Comments: _____

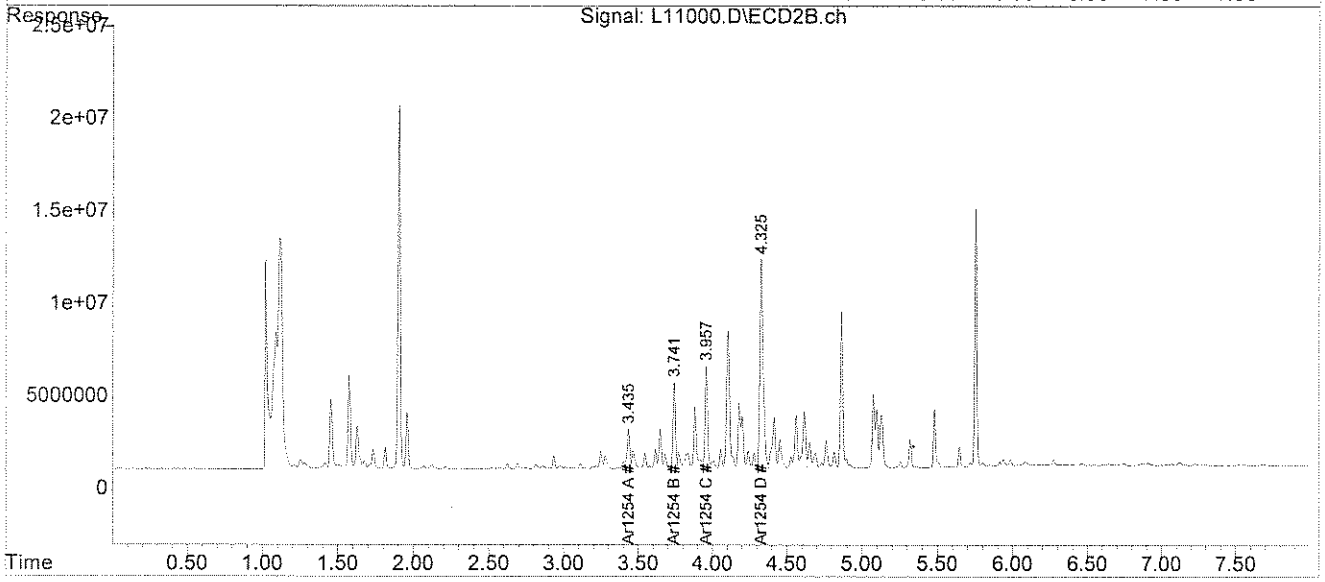
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11000.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 3:57 pm
Operator :
Sample : 60451-18, A/C
Misc : SOIL
ALS Vial : 40 Sample Multiplier: 1

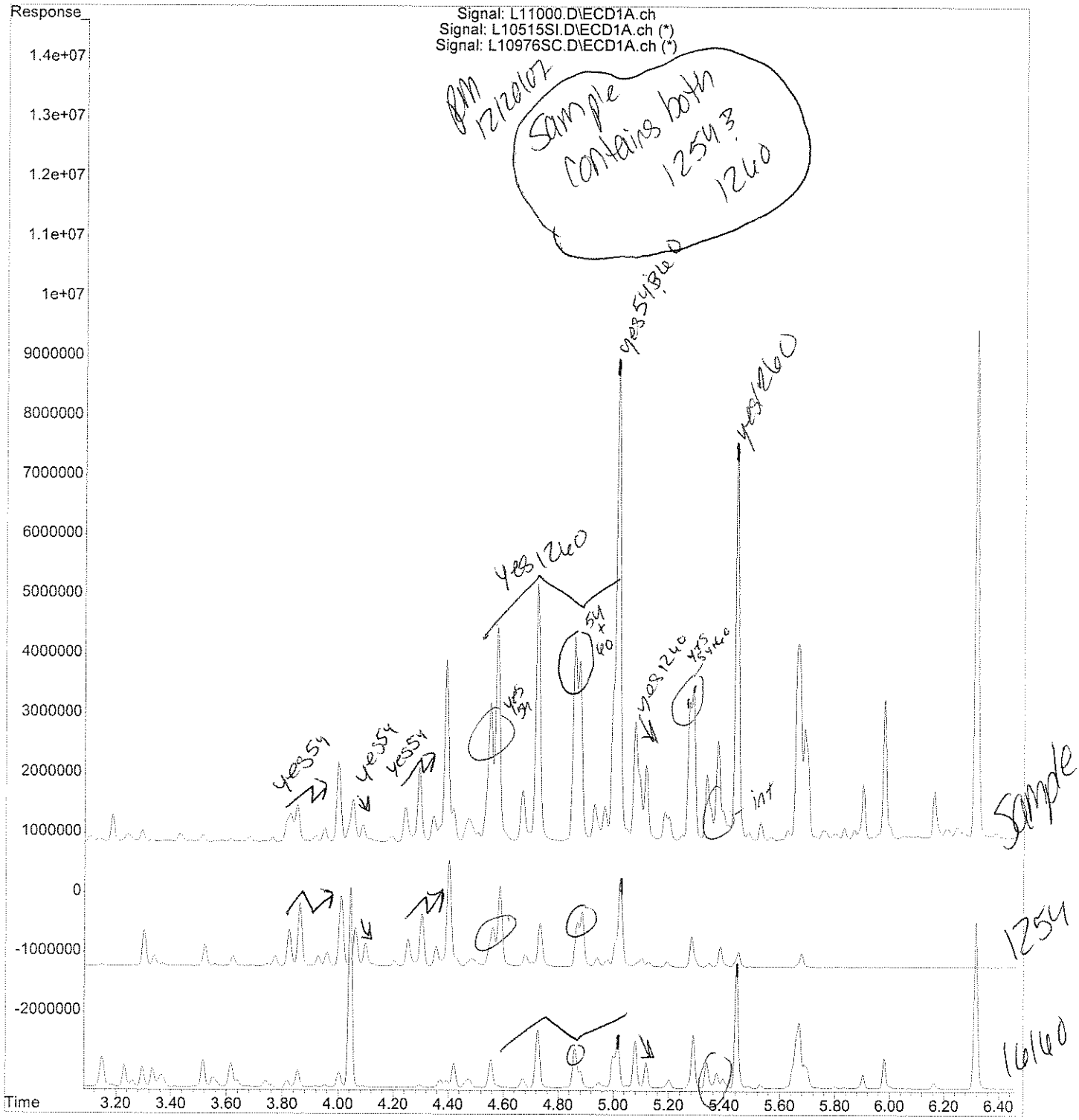
Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Dec 20 10:41:44 2007
Quant Method : C:\msdchem\1\METHODS\54SP12047.M
Quant Title :
QLast Update : Thu Dec 06 09:26:26 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





File :C:\msdchem\1\DATA\121907-L\L11000.D
Operator :
Acquired : 19 Dec 07 3:57 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-18, A/C
Misc Info : SOIL
Vial Number: 40



D1308

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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-19

SAMPLE DATA

Lab Sample ID: 60451-19
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.1**
PCB-1260	0.5	**1.7**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	78	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
SDG: 60451

GC Column #1: RTX-CLPesticides I
Sample: 60451-19, A/C

Column ID: 0.32 mm
Data File: L11001.D

GC Column #2: RTX-CLPesticides II
Dilution Factor: 1.0

Column ID: 0.32 mm

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.8	1.1	28.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-19, A/C
Data File: L11001.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.7	1.4	23.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

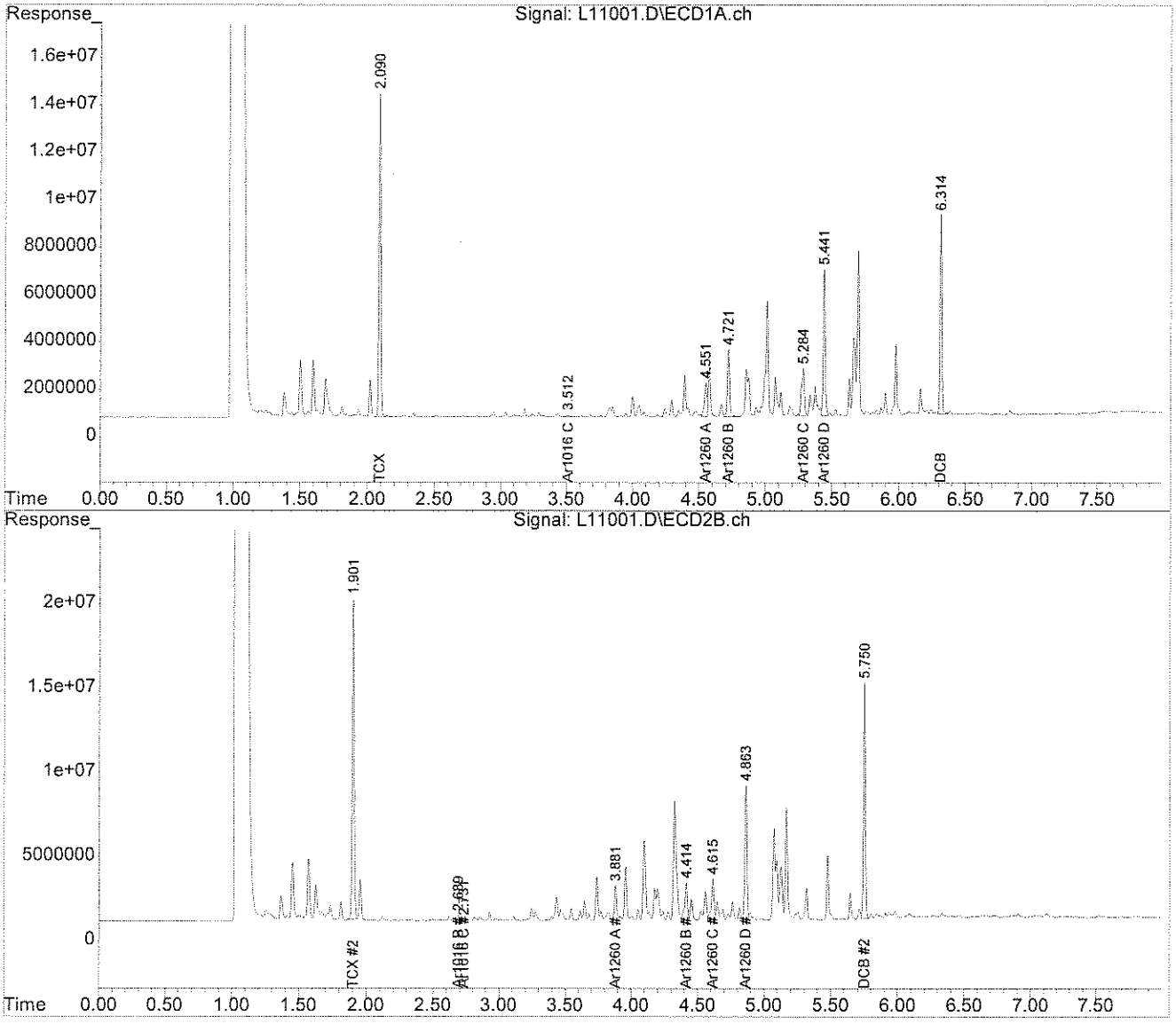
Comments: _____

Quantitation Report (Not Reviewed)

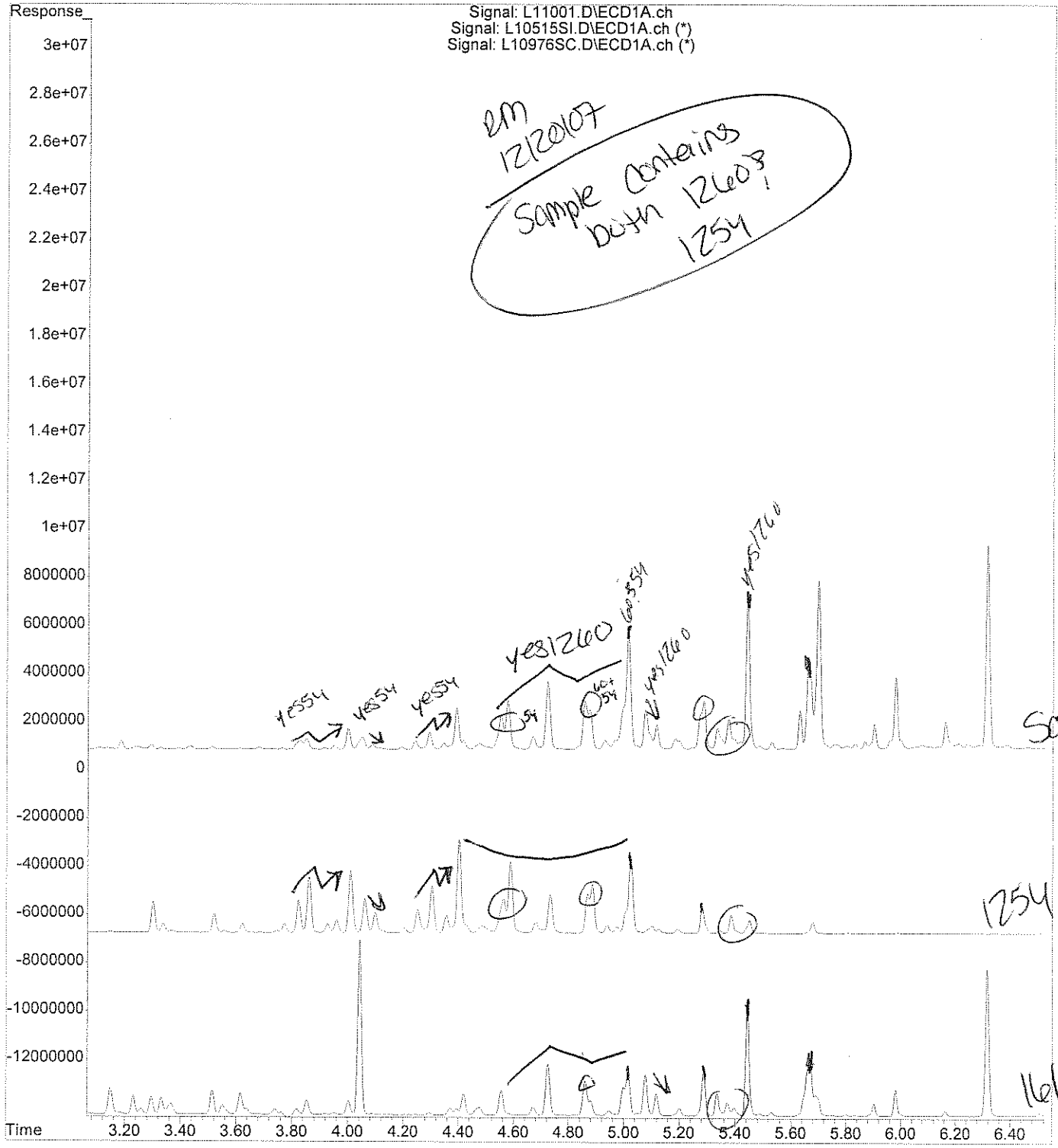
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11001.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 4:07 pm
Operator :
Sample : 60451-19, A/C
Misc : SOIL
ALS Vial : 41 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:09:01 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11001.D
Operator :
Acquired : 19 Dec 07 4:07 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-19, A/C
Misc Info : SOIL
Vial Number: 41



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December 27, 2007

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-20

SAMPLE DATA

Lab Sample ID: 60451-20
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/18/07
Analysis Date: 12/19/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.8**
PCB-1260	0.5	**1.5**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	75	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature Mclindall

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
SDG: 60451

GC Column #1: RTX-CLPesticides I
Sample: 60451-20, A/C

Column ID: 0.32 mm
Data File: L11002.D

GC Column #2: RTX-CLPesticides II
Dilution Factor: 1.0

Column ID: 0.32 mm

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.8	0.7	14.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-20, A/C
Data File: L11002.D
Dilution Factor: 0.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.5	1.3	13.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

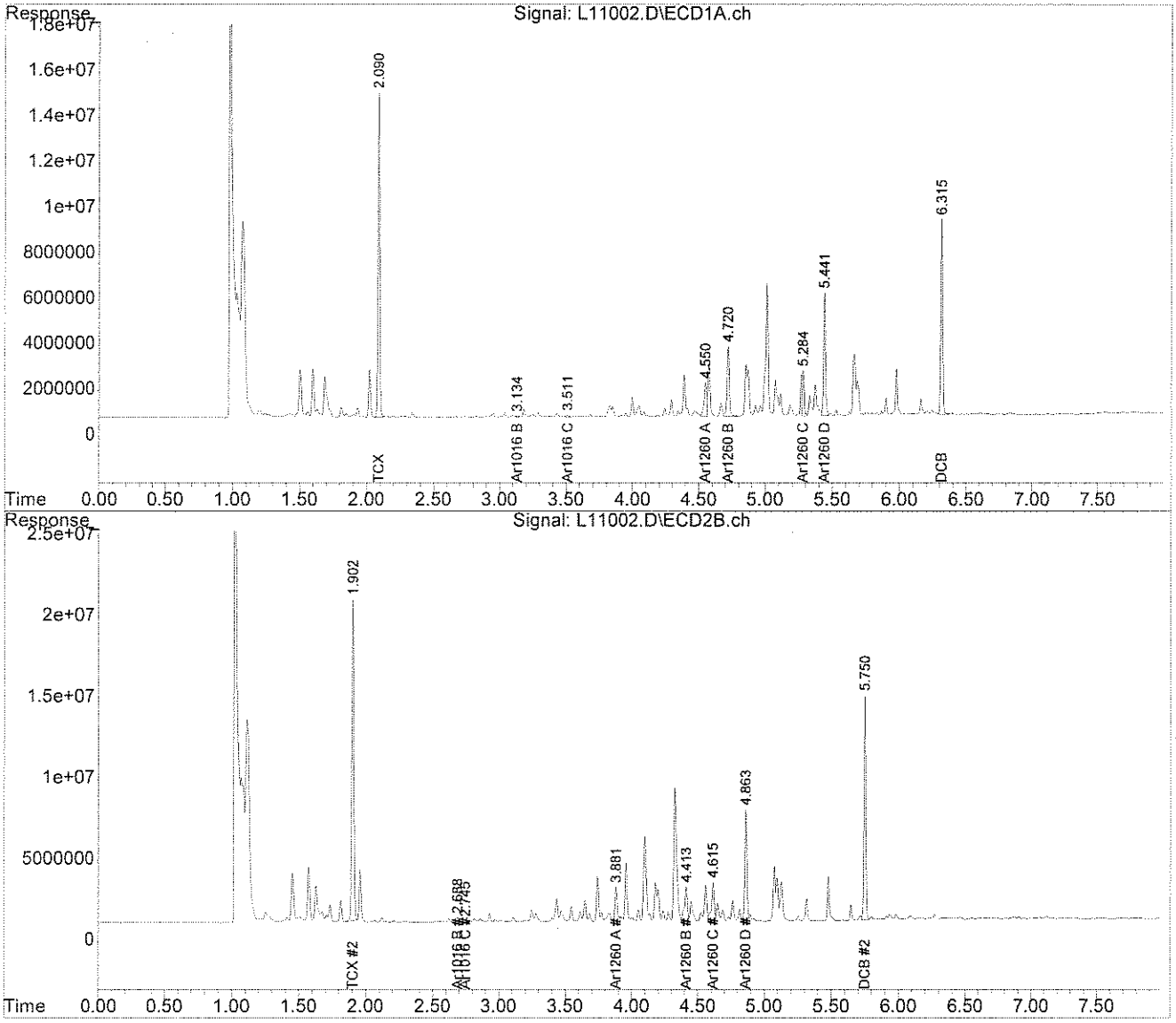
Comments: _____

Quantitation Report (Not Reviewed)

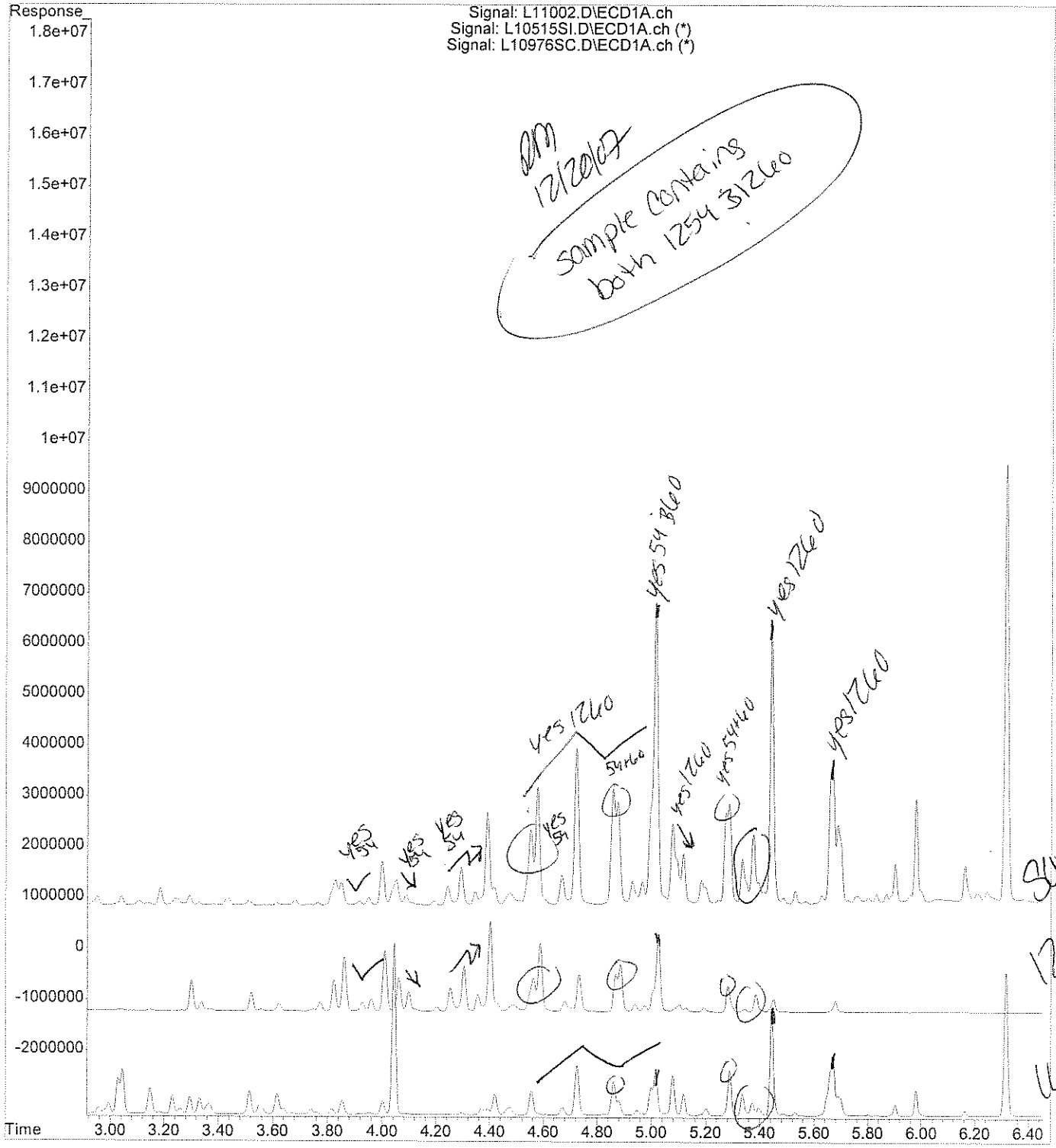
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11002.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 19 Dec 07 4:17 pm
Operator :
Sample : 60451-20, A/C
Misc : SOIL
ALS Vial : 42 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 20 08:09:03 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11002.D
Operator :
Acquired : 19 Dec 07 4:17 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-20, A/C
Misc Info : SOIL
Vial Number: 42



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New Haven CT 06510

January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-21

SAMPLE DATA

Lab Sample ID: 60451-21
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.5 P**
PCB-1260	0.5	**1.8**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: P=Sample did not meet confirmation acceptance criteria for percent difference.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
SDG: 60451

GC Column #1: RTX-CLPesticides I
Sample: 60451-21, A/C

Column ID: 0.32 mm
Data File: L11008.D

GC Column #2: RTX-CLPesticides II
Dilution Factor: 1.0

Column ID: 0.32 mm

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.0	1.5	41.4	*

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-21, A/C
Data File: L11008.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.8	1.5	21.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

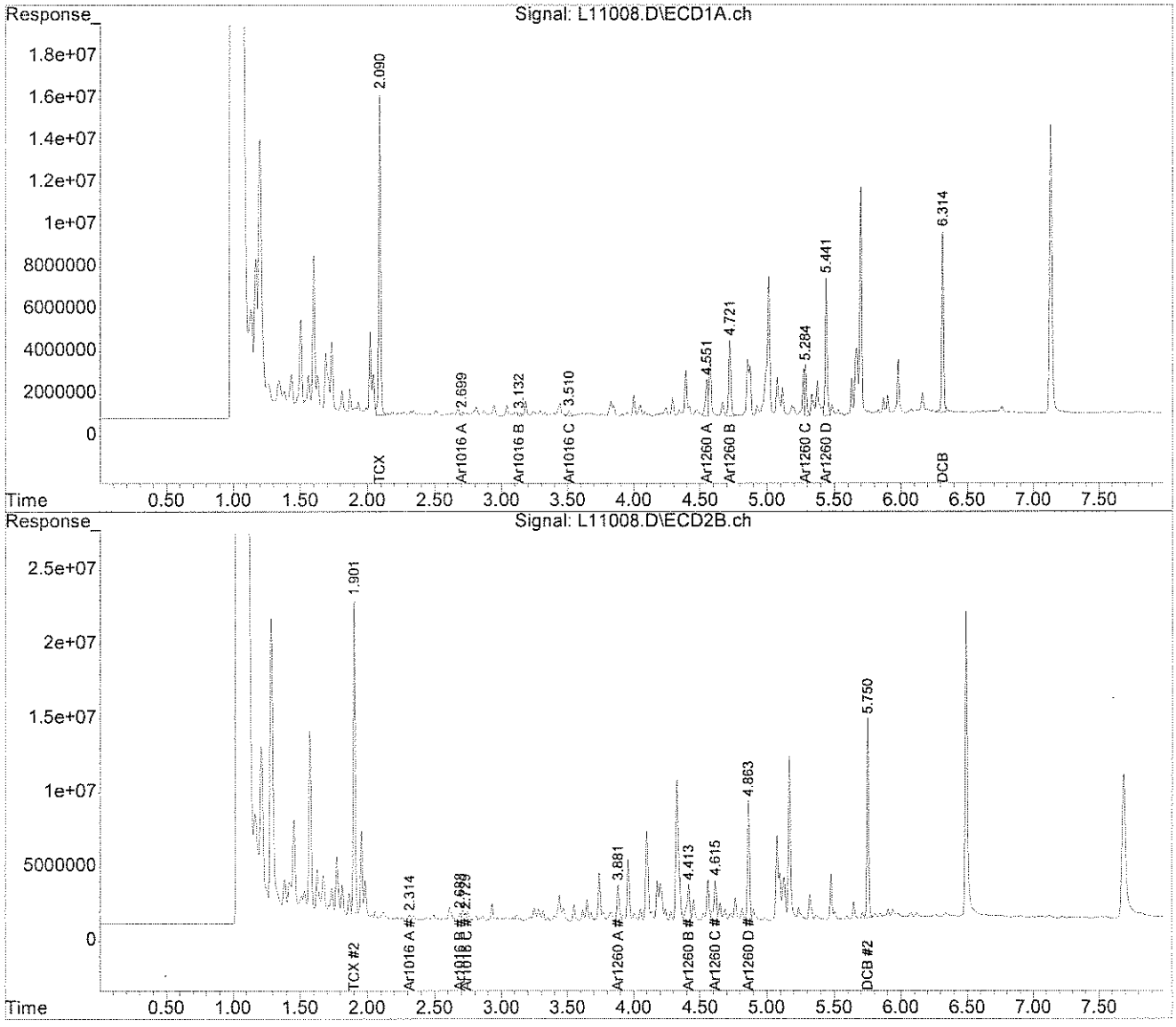
PCB FORM 10

Quantitation Report (Not Reviewed)

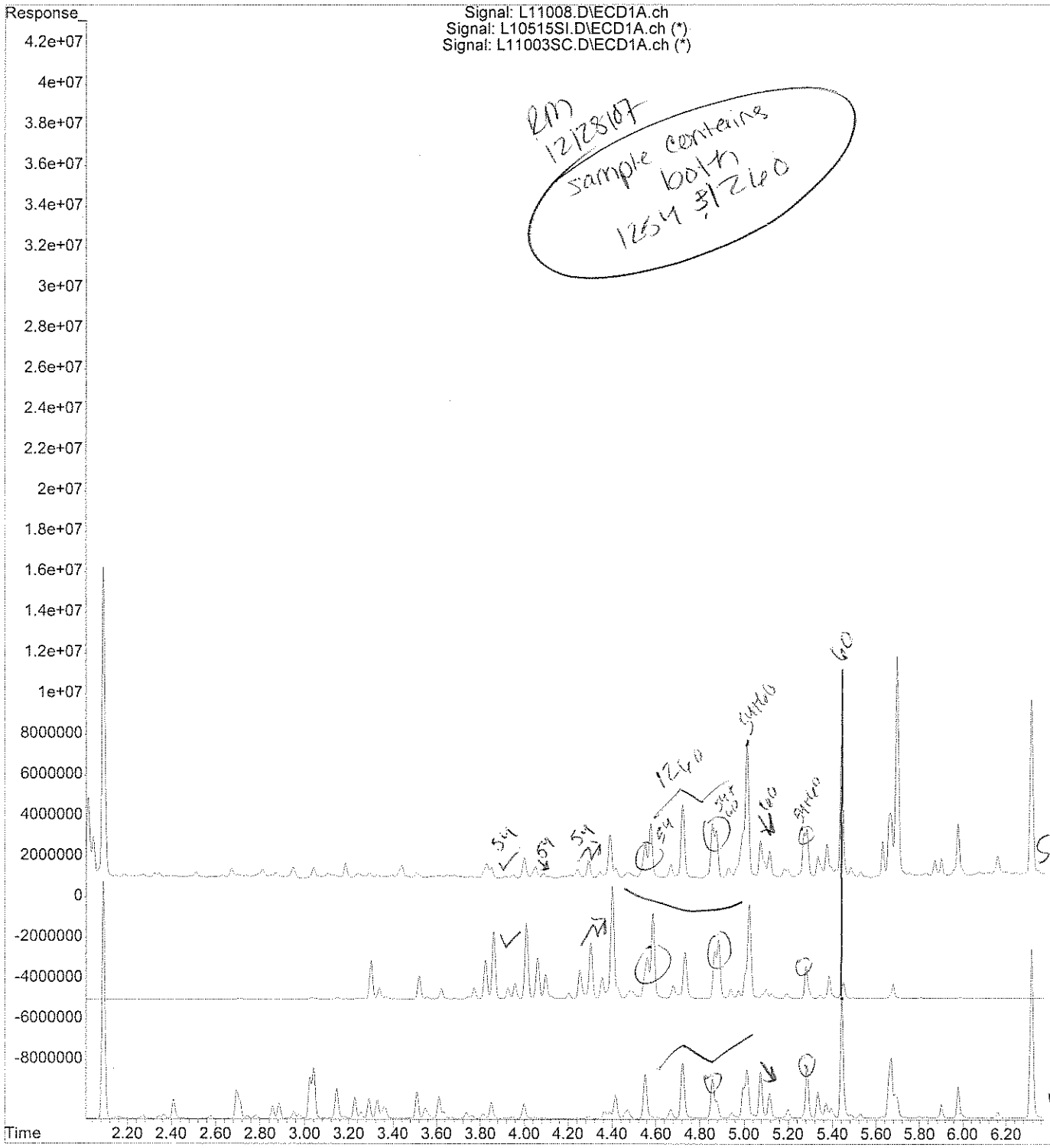
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11008.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 4:48 pm
Operator :
Sample : 60451-21, A/C
Misc : SOIL
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:48 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



```
File        :C:\msdchem\1\DATA\121907-L\L11008.D
Operator    :
Acquired    : 20 Dec 07    4:48 pm using AcqMethod PEST.M
Instrument :    Inst L
Sample Name: 60451-21, A/C
Misc Info   : SOIL
Vial Number: 7
```



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January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-22

SAMPLE DATA

Lab Sample ID: 60451-22
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.2**
PCB-1260	0.5	**1.7**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	94	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-22, A/C
Data File: L11009.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.0	1.2	24.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-22, A/C
Data File: L11009.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.7	1.3	27.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

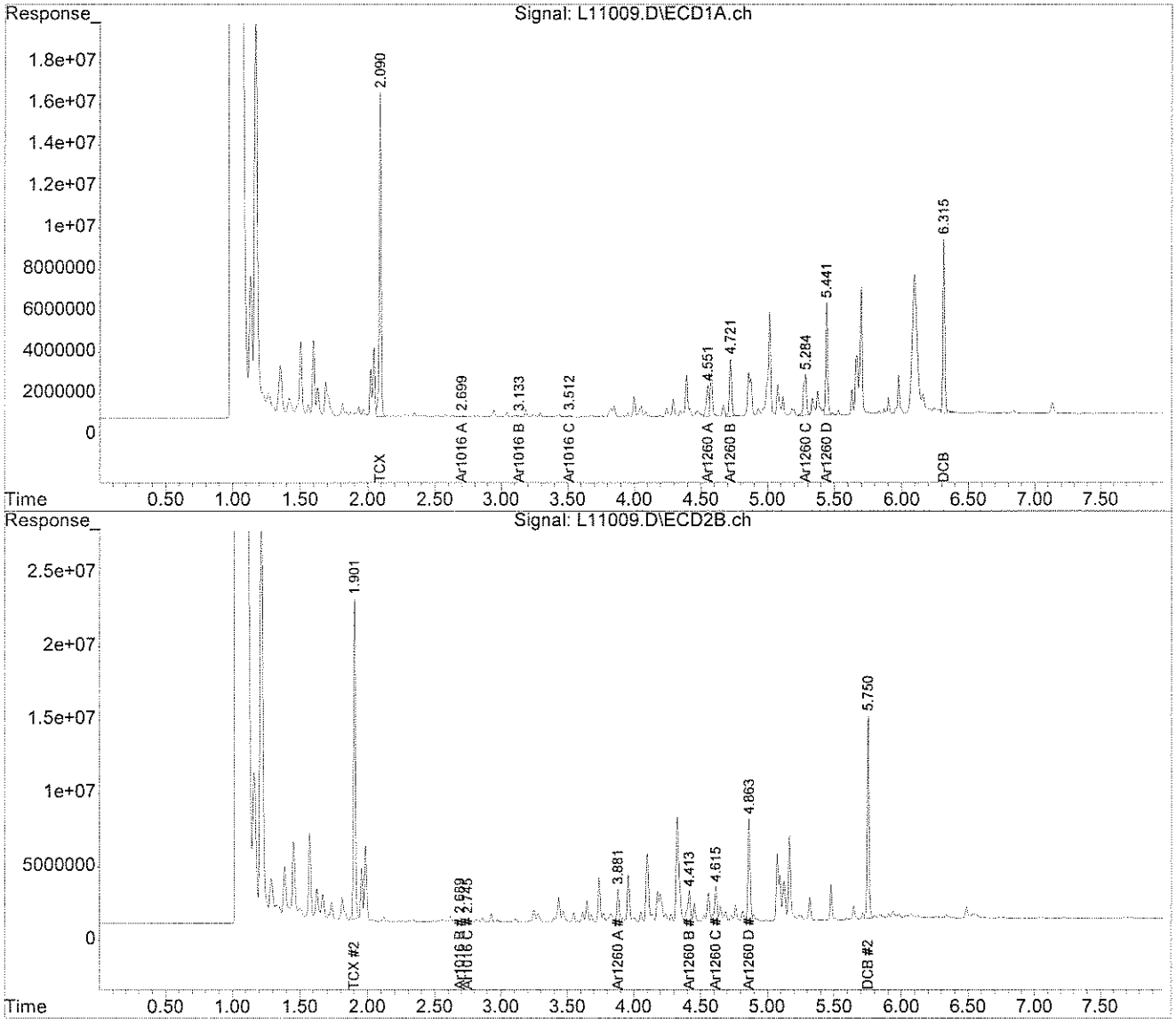
PCB FORM 10

Quantitation Report (Not Reviewed)

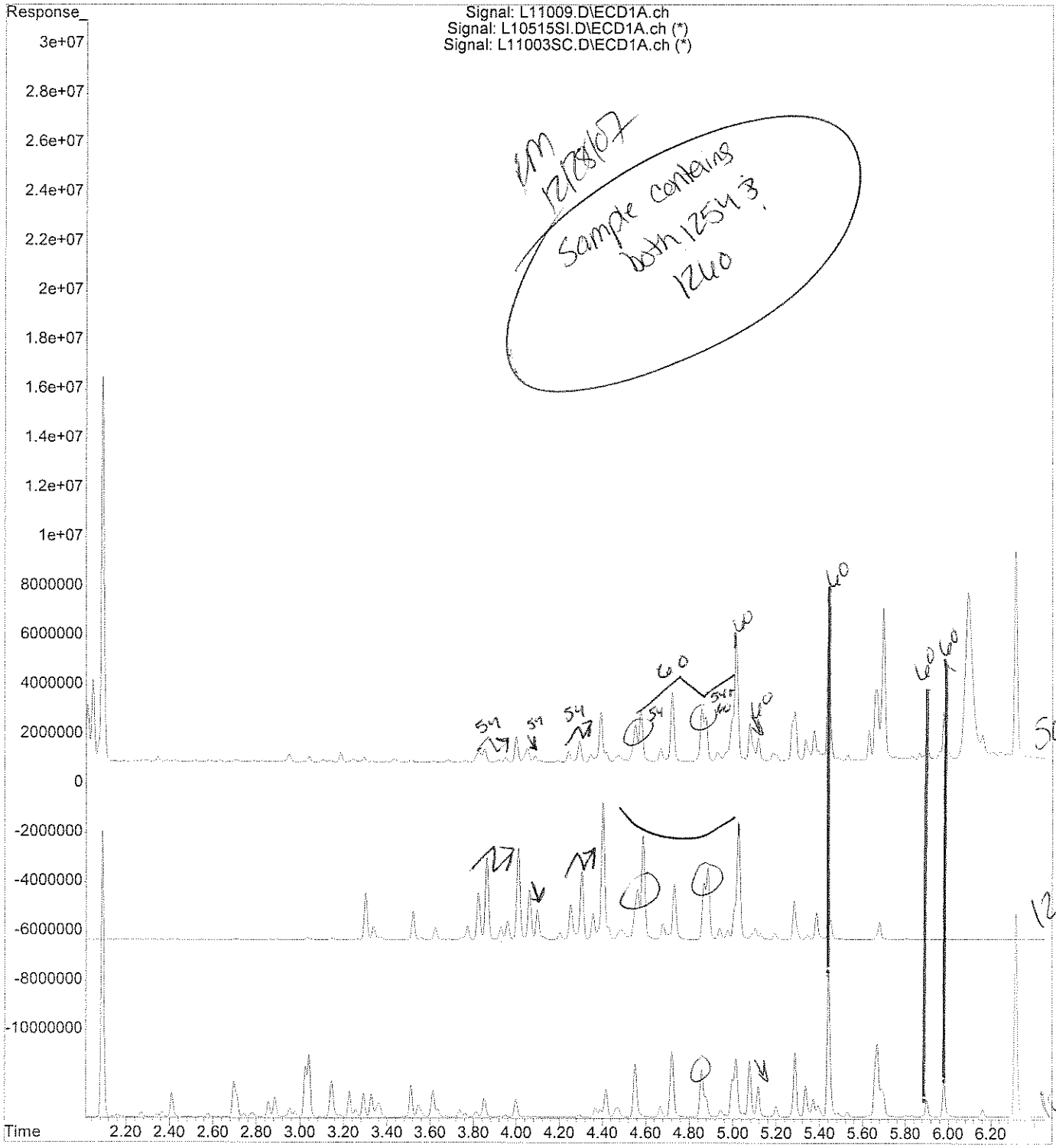
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11009.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 4:58 pm
Operator :
Sample : 60451-22, A/C
Misc : SOIL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:50 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11009.D
Operator :
Acquired : 20 Dec 07 4:58 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-22, A/C
Misc Info : SOIL
Vial Number: 8



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135 College Street
New Haven CT 06510

January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-23

SAMPLE DATA

Lab Sample ID: 60451-23
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.9**
PCB-1260	0.5	**1.6**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	90	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature MKendall

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-23, A/C
Data File: L11010.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.6	0.9	38.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-23, A/C
Data File: L11010.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.6	1.2	28.8	

Column to be used to flag RPD values greater than QC limit of 40%

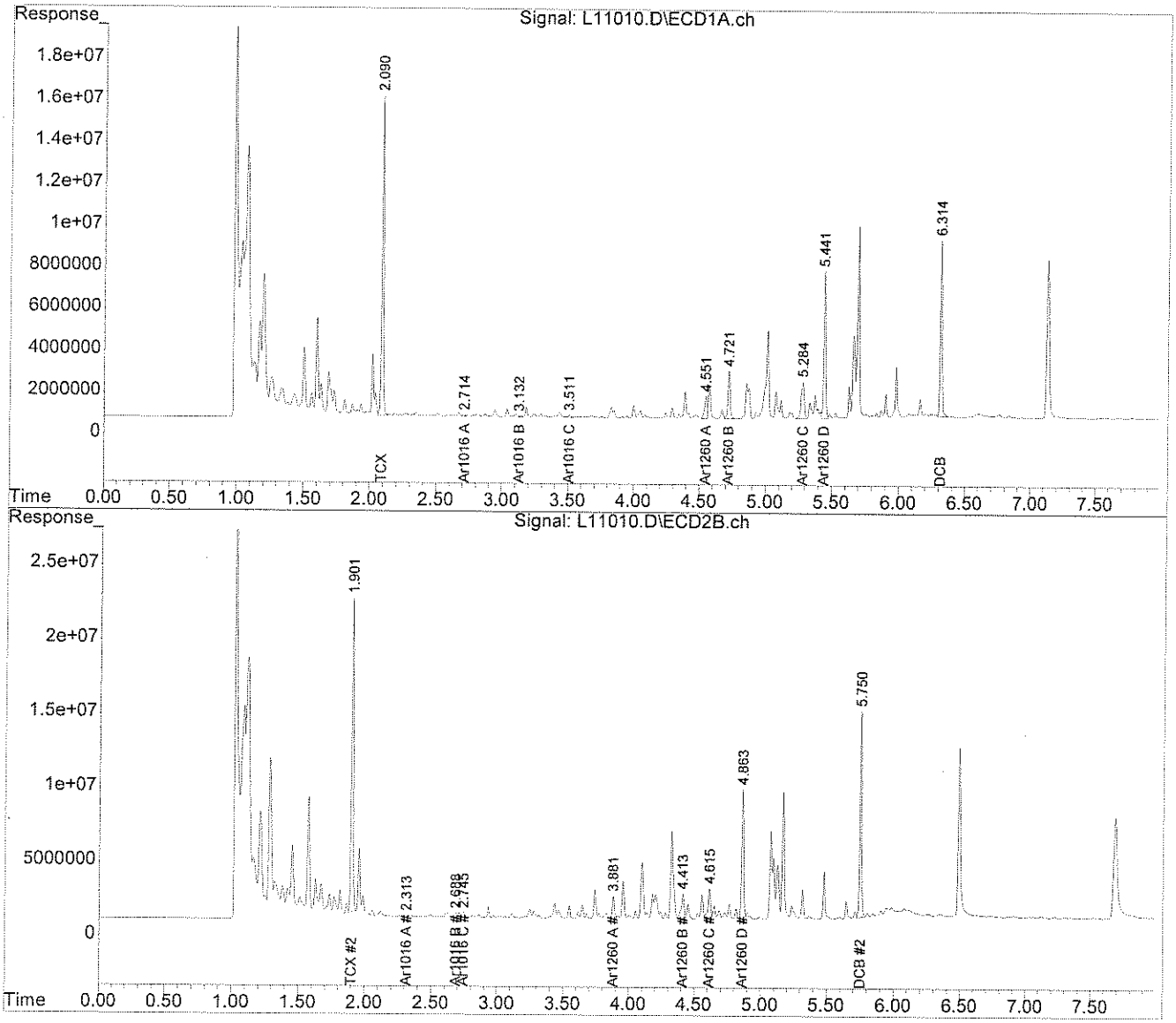
* Values outside QC limits

Comments: _____

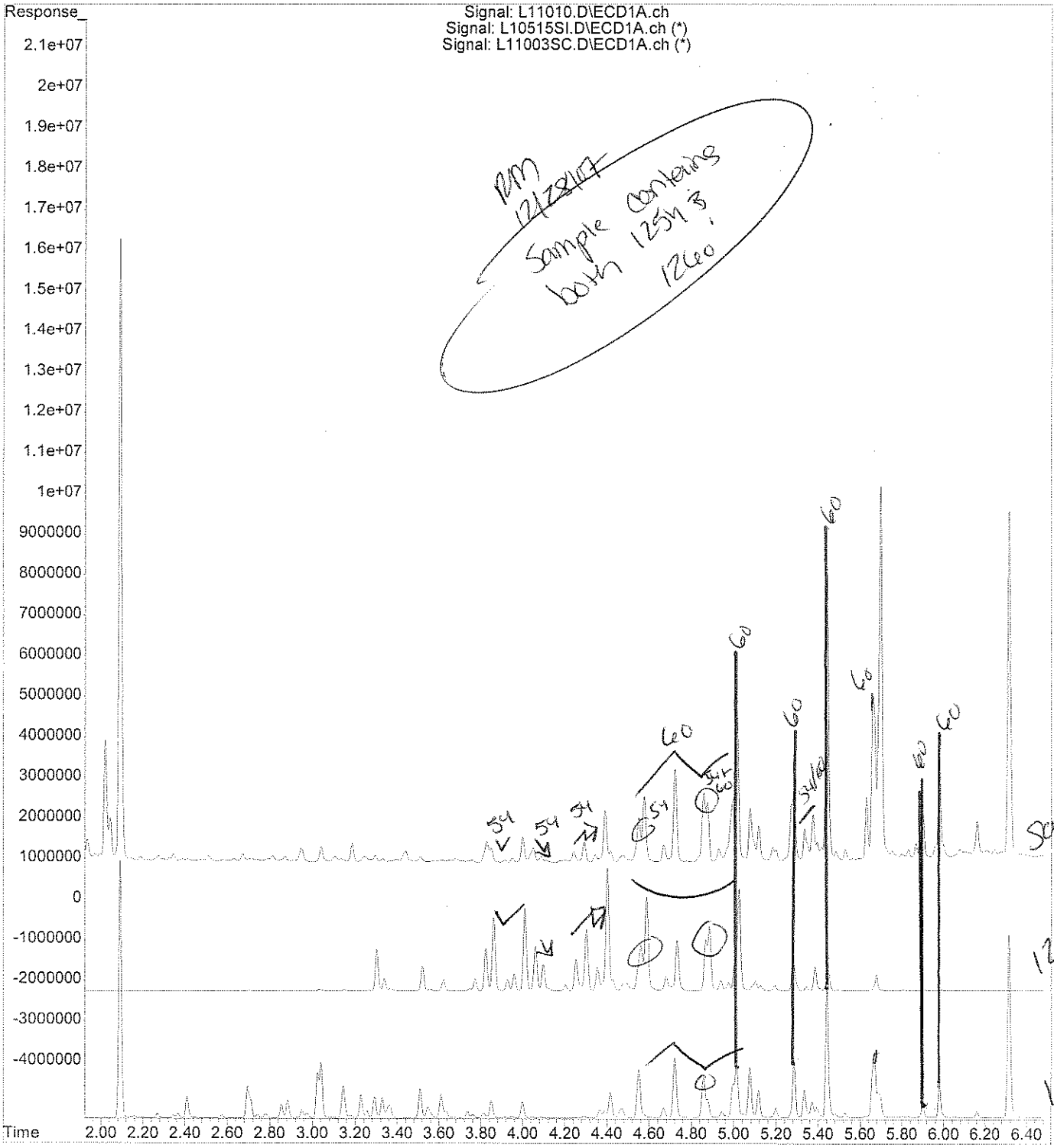
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11010.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 5:08 pm
Operator :
Sample : 60451-23, A/C
Misc : SOIL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:52 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11010.D
Operator :
Acquired : 20 Dec 07 5:08 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-23, A/C
Misc Info : SOIL
Vial Number: 9



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January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-24

SAMPLE DATA

Lab Sample ID: 60451-24
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.2**
PCB-1260	0.5	**1.9**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	92	%
Decachlorobiphenyl	80	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-24, A/C
Data File: L11011.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.9	1.2	29.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-24, A/C
Data File: L11011.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.9	1.4	27.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

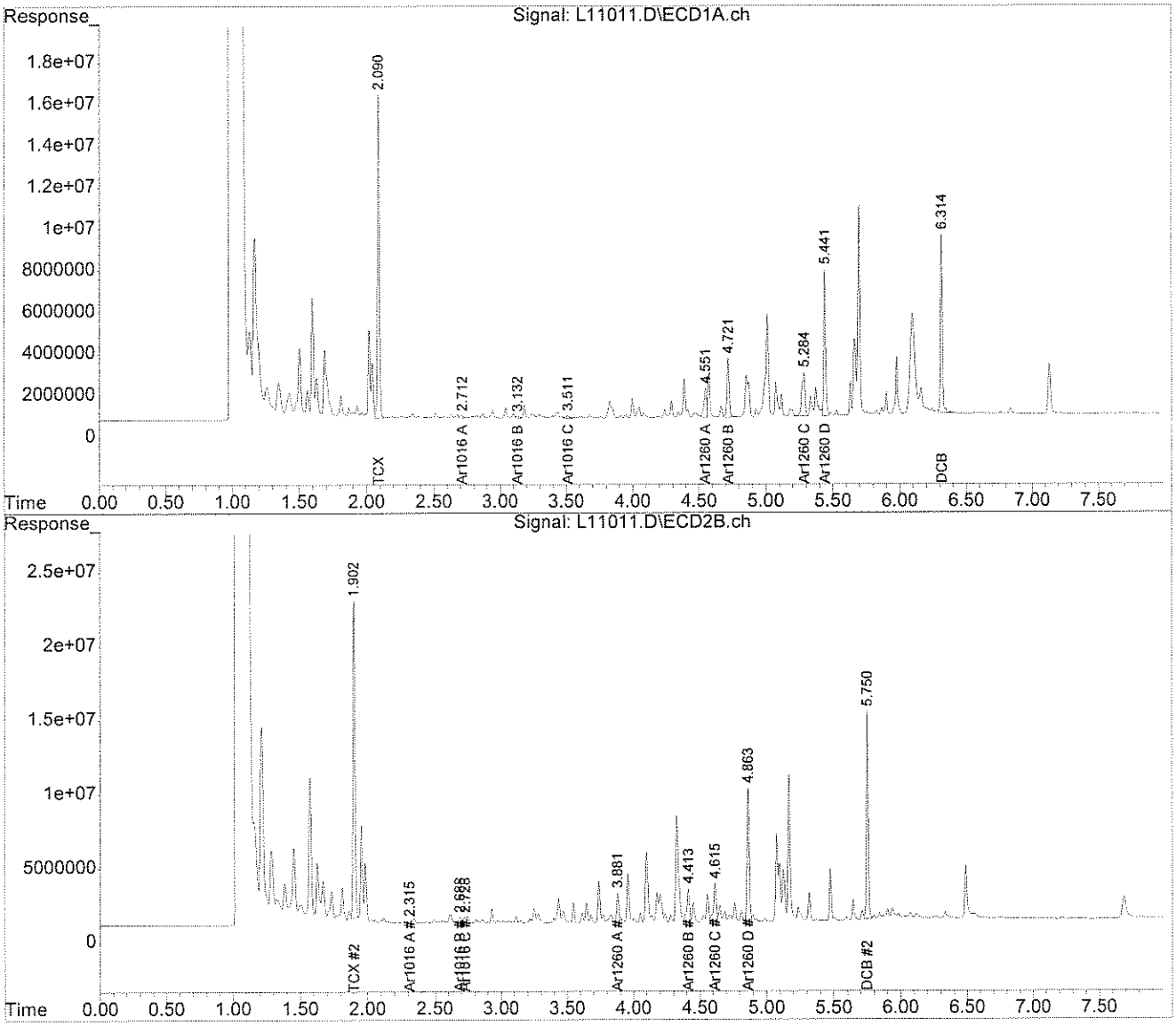
Comments: _____

Quantitation Report (Not Reviewed)

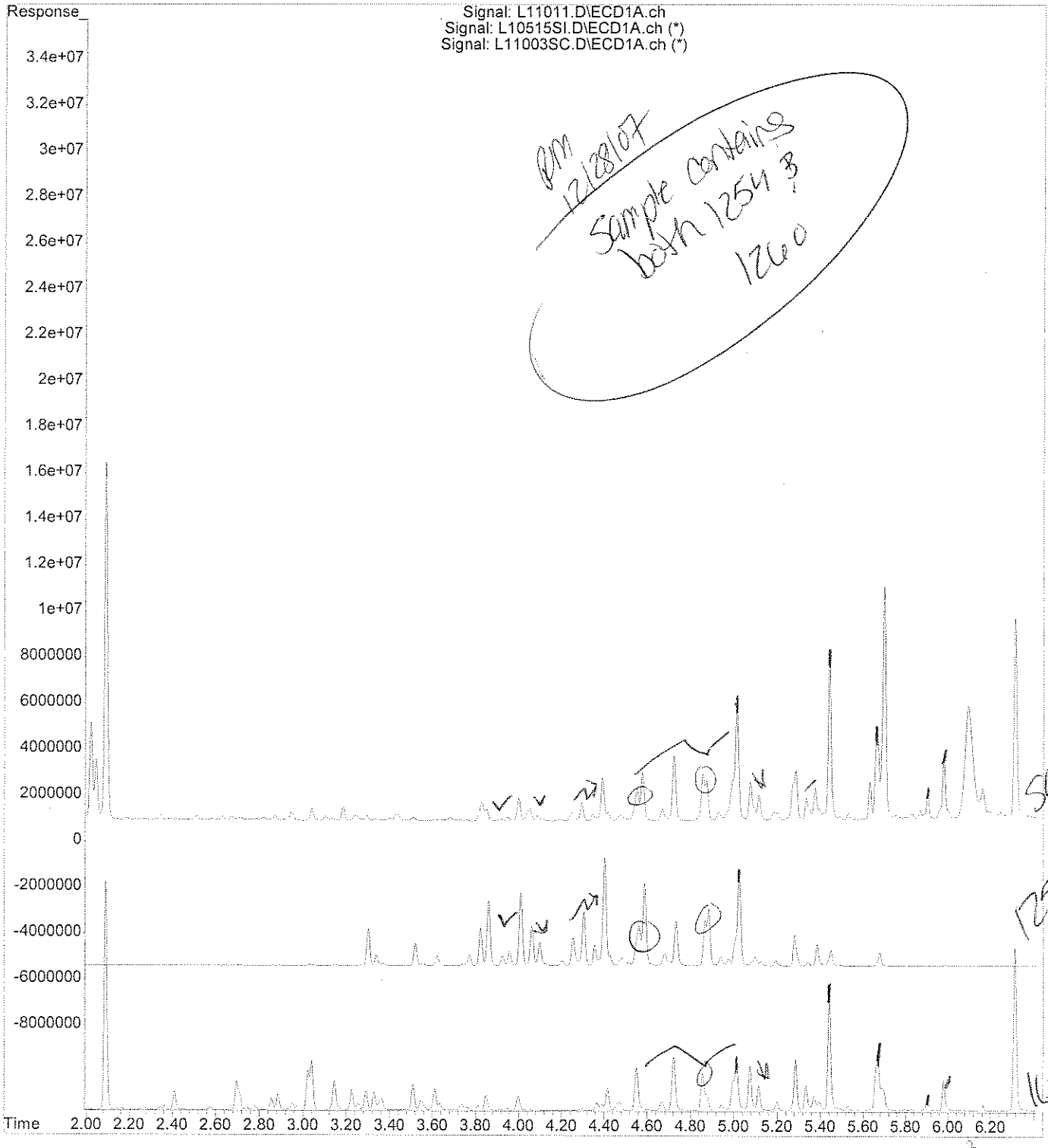
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11011.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 5:18 pm
Operator :
Sample : 60451-24, A/C
Misc : SOIL
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:54 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11011.D
Operator :
Acquired : 20 Dec 07 5:18 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-24, A/C
Misc Info : SOIL
Vial Number: 10



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-25

SAMPLE DATA

Lab Sample ID: 60451-25
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.0**
PCB-1260	0.5	**1.5**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	88	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature MLinchall

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-25, A/C
Data File: L11012.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.7	1.0	29.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-25, A/C
Data File: L11012.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	1.5	1.2	25.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

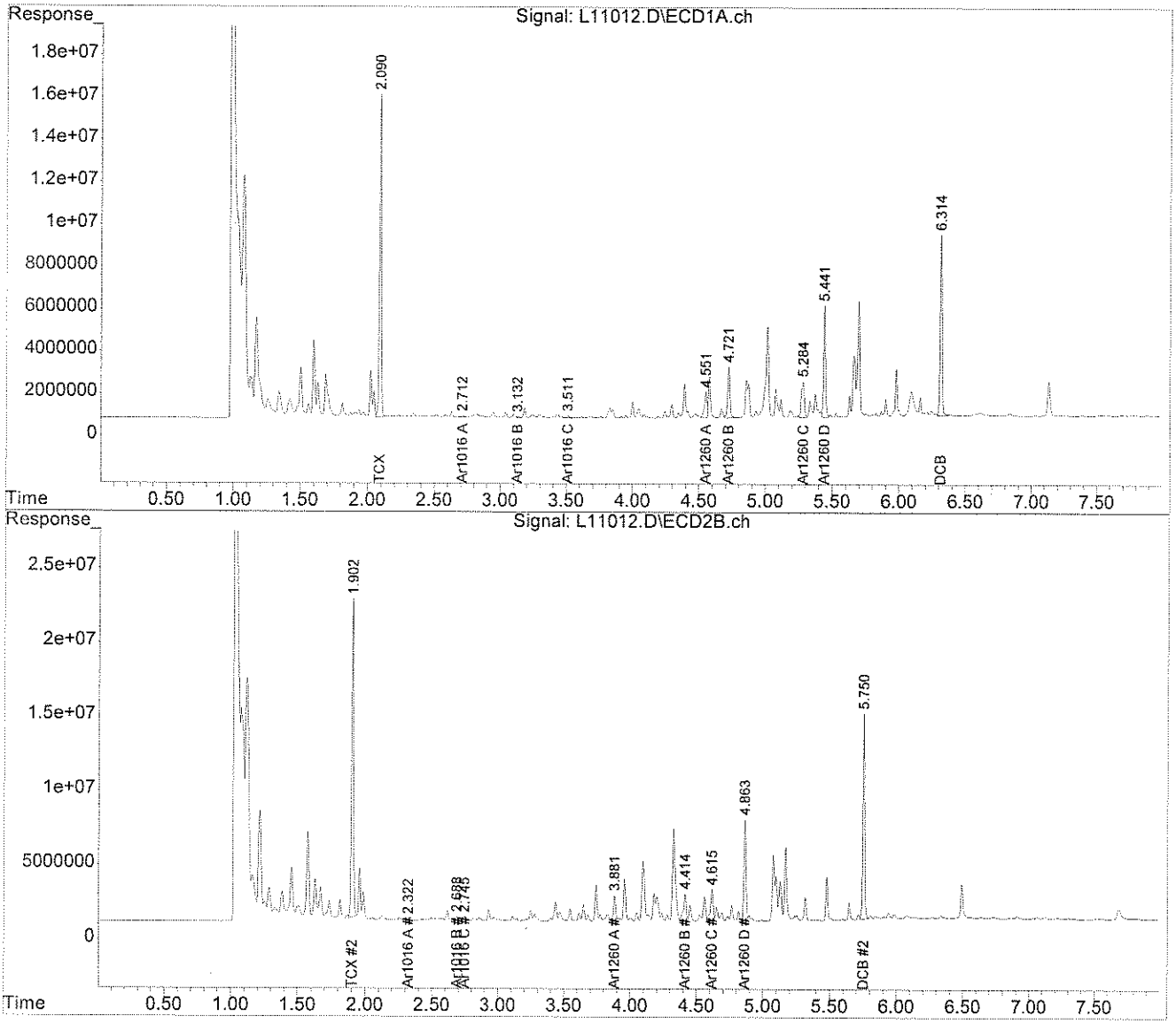
Comments: _____

Quantitation Report (Not Reviewed)

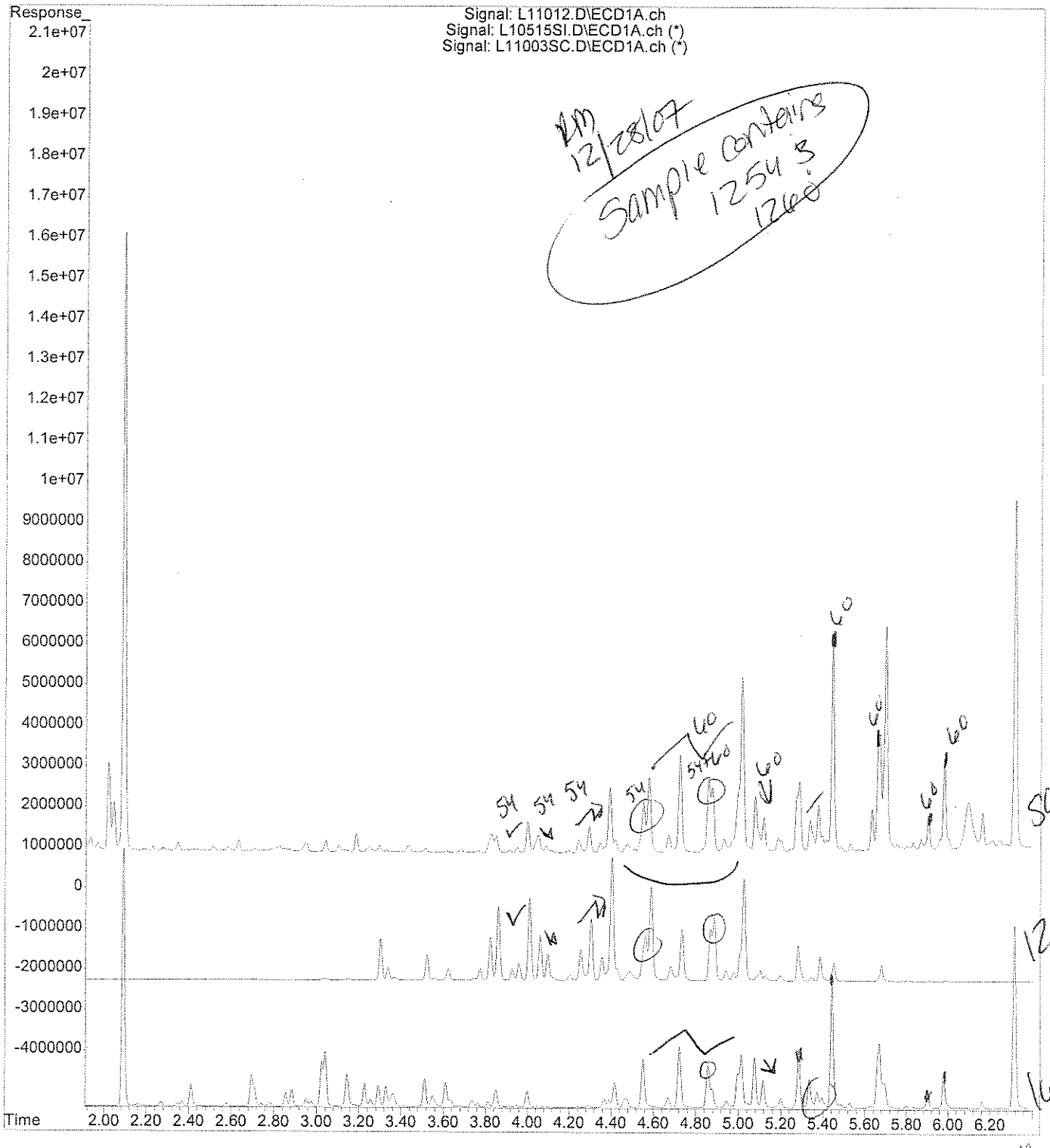
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11012.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 5:29 pm
Operator :
Sample : 60451-25, A/C
Misc : SOIL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:56 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11012.D
Operator :
Acquired : 20 Dec 07 5:29 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-25, A/C
Misc Info : SOIL
Vial Number: 11



DI-308

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Mr. Rob Klein
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January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-26

SAMPLE DATA

Lab Sample ID: 60451-26
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.9**
PCB-1260	0.5	**2.1**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	89	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-26, A/C
Data File: L11013.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.5	1.9	24.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-26, A/C
Data File: L11013.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	2.1	1.8	15.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

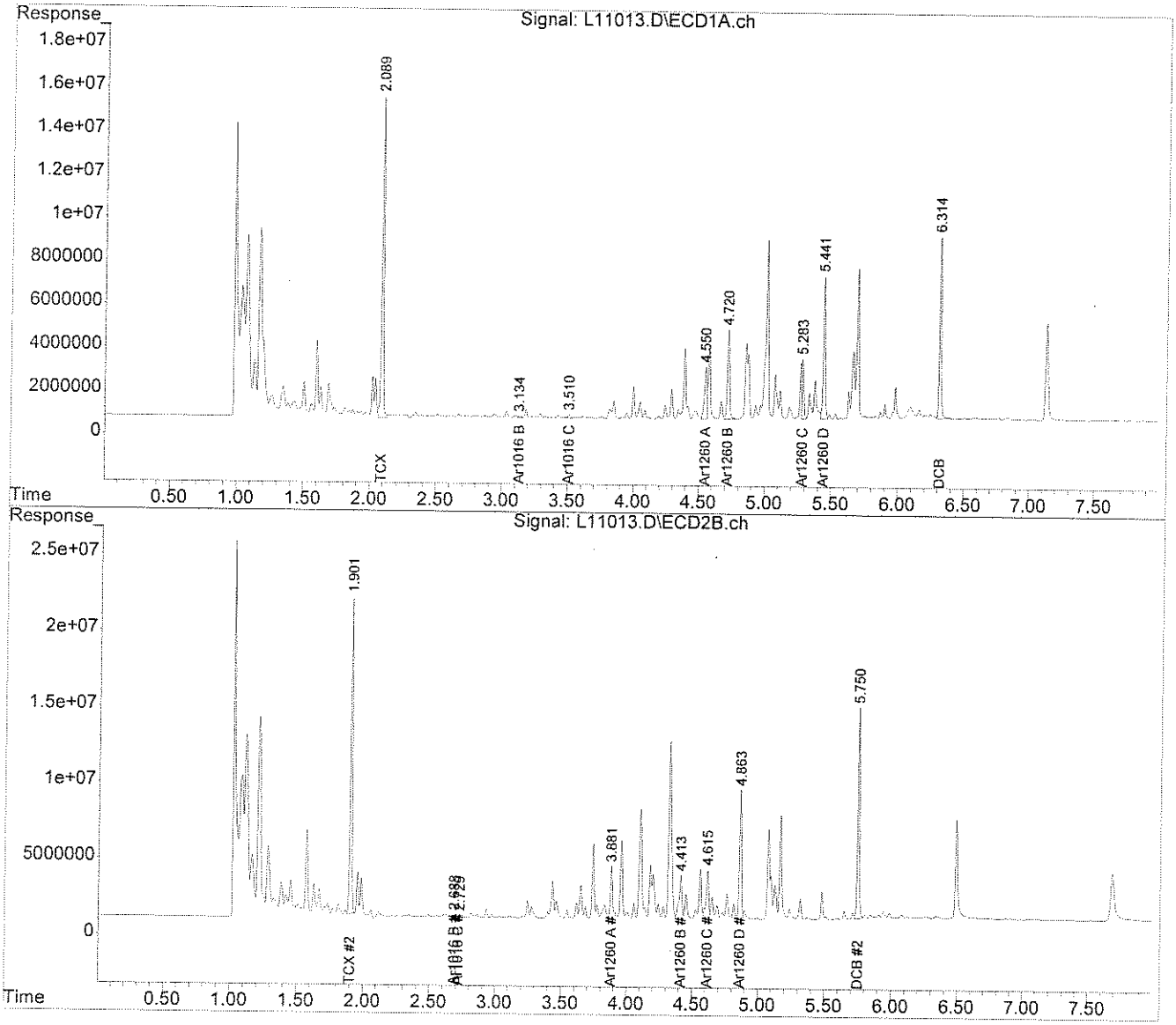
Comments: _____

Quantitation Report (Not Reviewed)

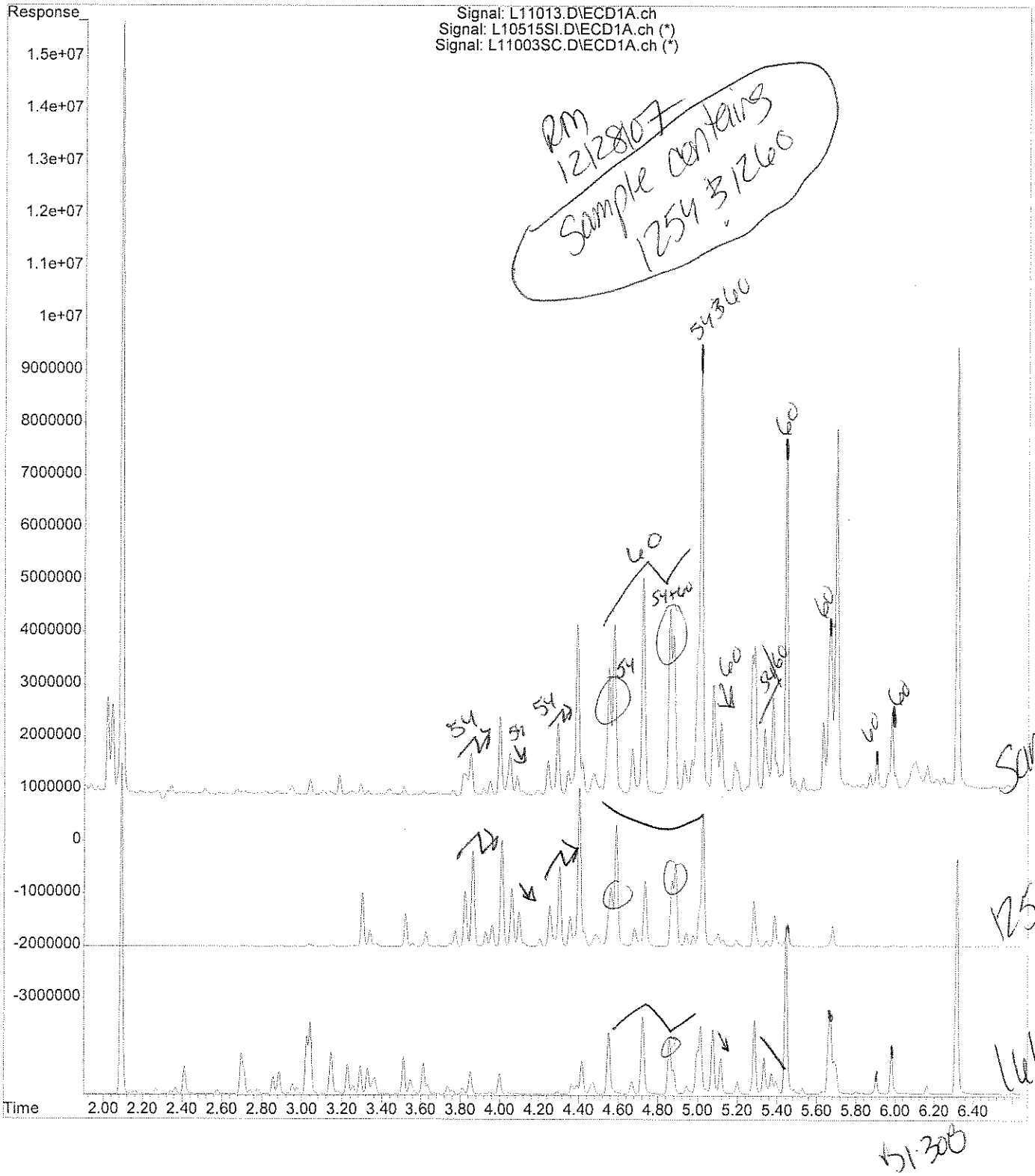
Path : C:\msdchem\1\DATA\121907-L\
Data File : L11013.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 5:39 pm
Operator :
Sample : 60451-26, A/C
Misc : SOIL
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:49:58 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11013.D
Operator :
Acquired : 20 Dec 07 5:39 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-26, A/C
Misc Info : SOIL
Vial Number: 12



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January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: WP-27

SAMPLE DATA

Lab Sample ID: 60451-27
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**1.7**
PCB-1260	0.5	**2.1**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	90	%
Decachlorobiphenyl	71	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-27, A/C
Data File: L11019.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	1.5	1.7	14.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-27, A/C
Data File: L11019.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1260	2.1	1.7	19.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

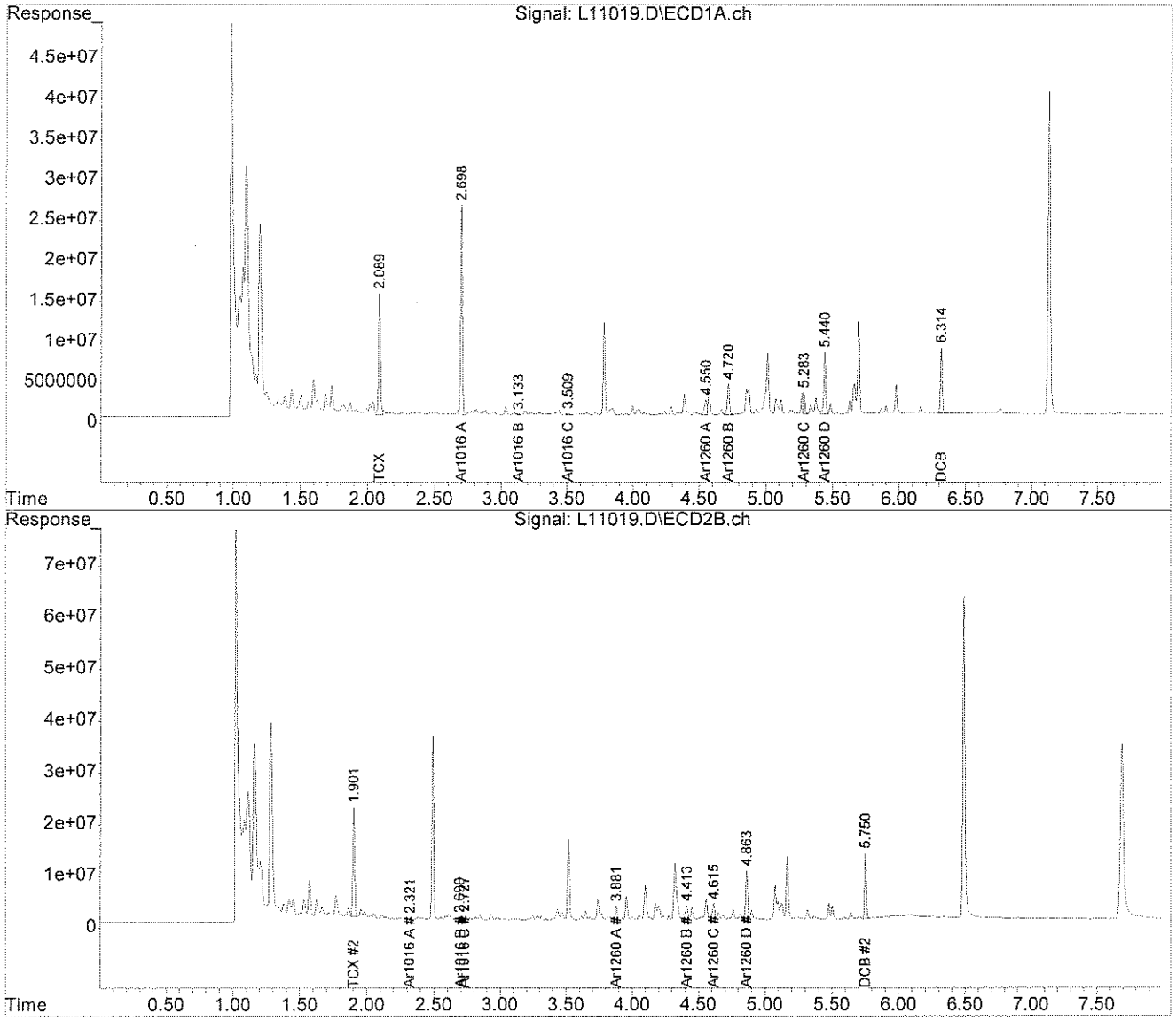
PCB FORM 10

Quantitation Report (Not Reviewed)

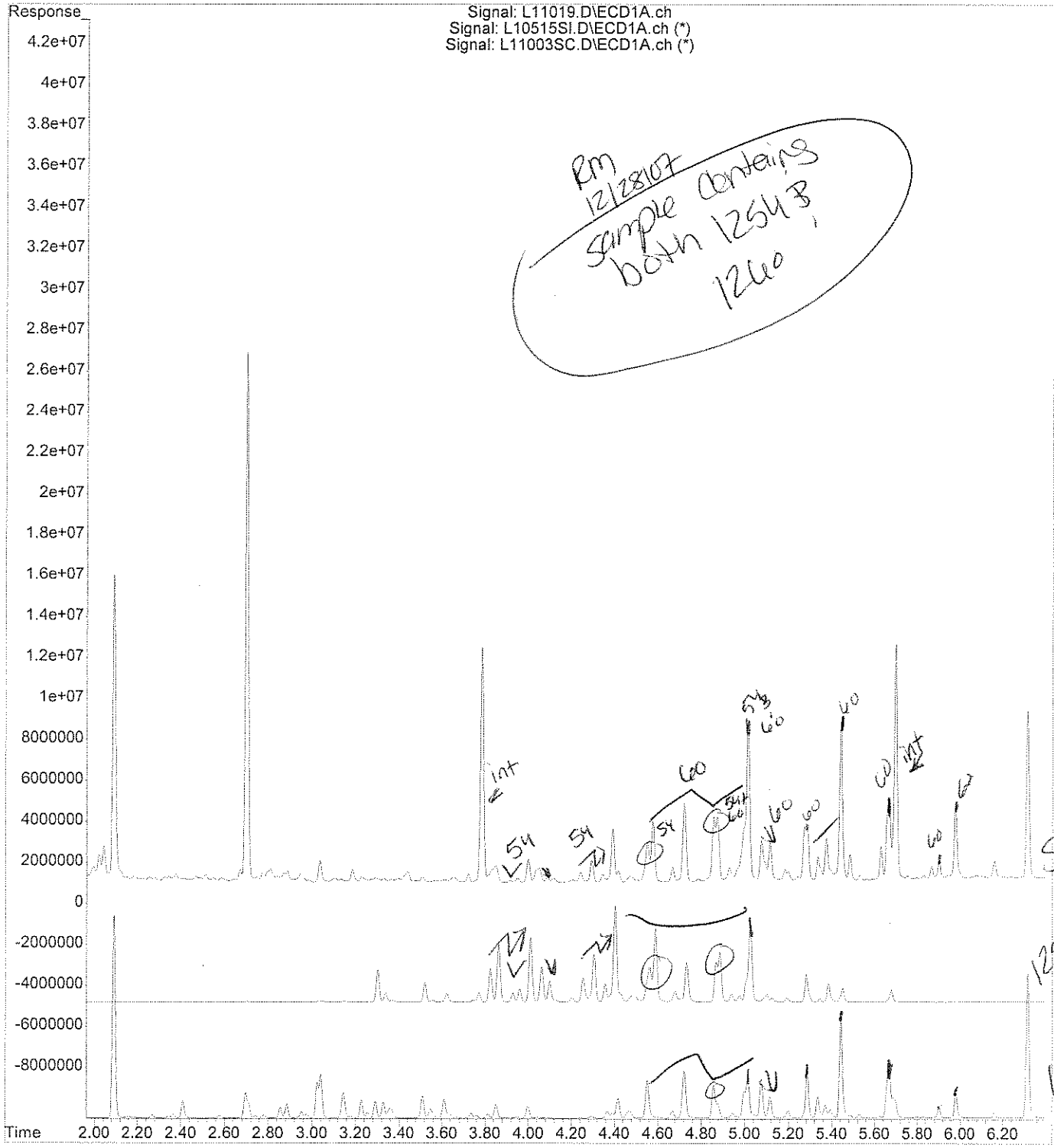
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11019.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 6:40 pm
Operator :
Sample : 60451-27, A/C
Misc : SOIL
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:10 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11019.D
Operator :
Acquired : 20 Dec 07 6:40 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-27, A/C
Misc Info : SOIL
Vial Number: 18



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January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-01

SAMPLE DATA

Lab Sample ID: 60451-28
Matrix: Solid
Percent Solid: 91
Dilution Factor: 1.1
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	36	U
PCB-1221	36	U
PCB-1232	36	U
PCB-1242	36	U
PCB-1248	36	U
PCB-1254	36	**287**
PCB-1260	36	**221**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	89	%
Decachlorobiphenyl	73	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-28, A/C
Data File: L11016.D
Dilution Factor: 1.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	258	287	10.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-28, A/C
Data File: L11016.D
Dilution Factor: 1.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	221	188	16.0	

Column to be used to flag RPD values greater than QC limit of 40%

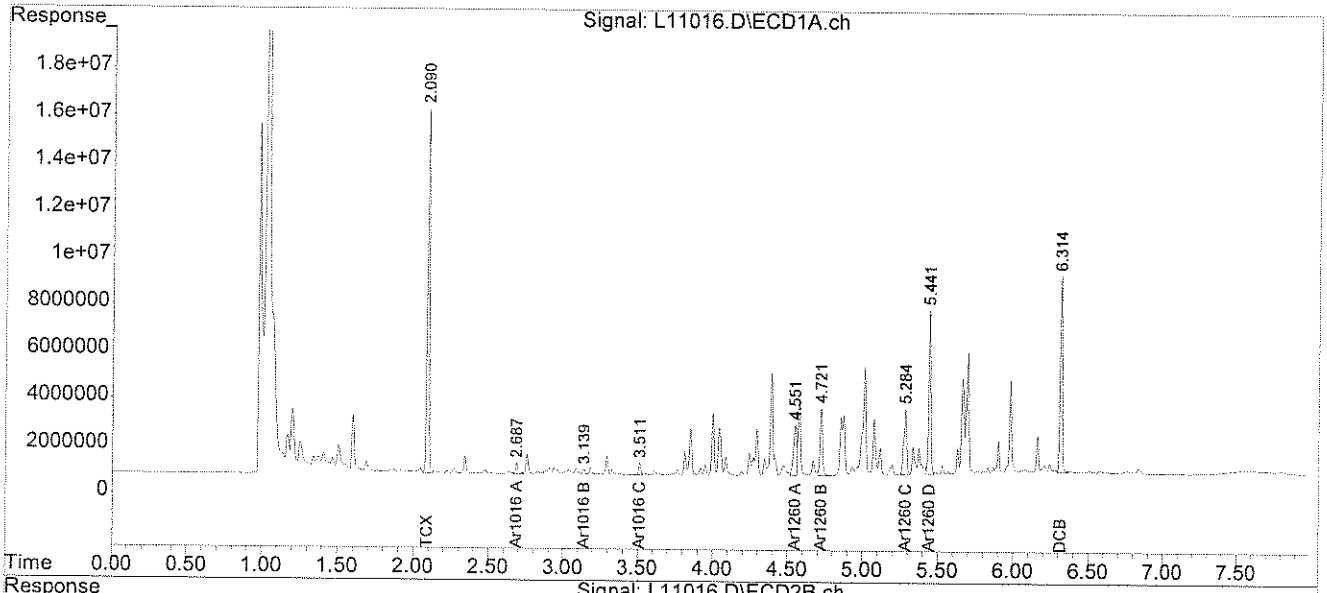
* Values outside QC limits

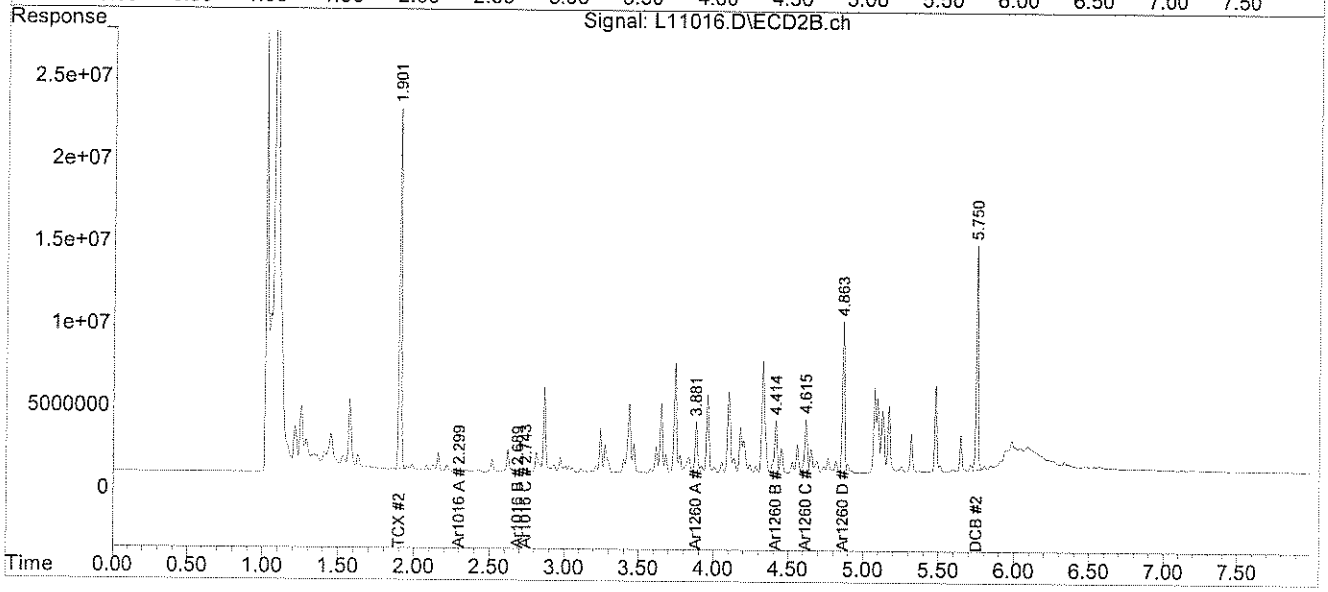
Comments: _____

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11016.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 6:10 pm
Operator :
Sample : 60451-28, A/C
Misc : SOIL
ALS Vial : 15 Sample Multiplier: 1

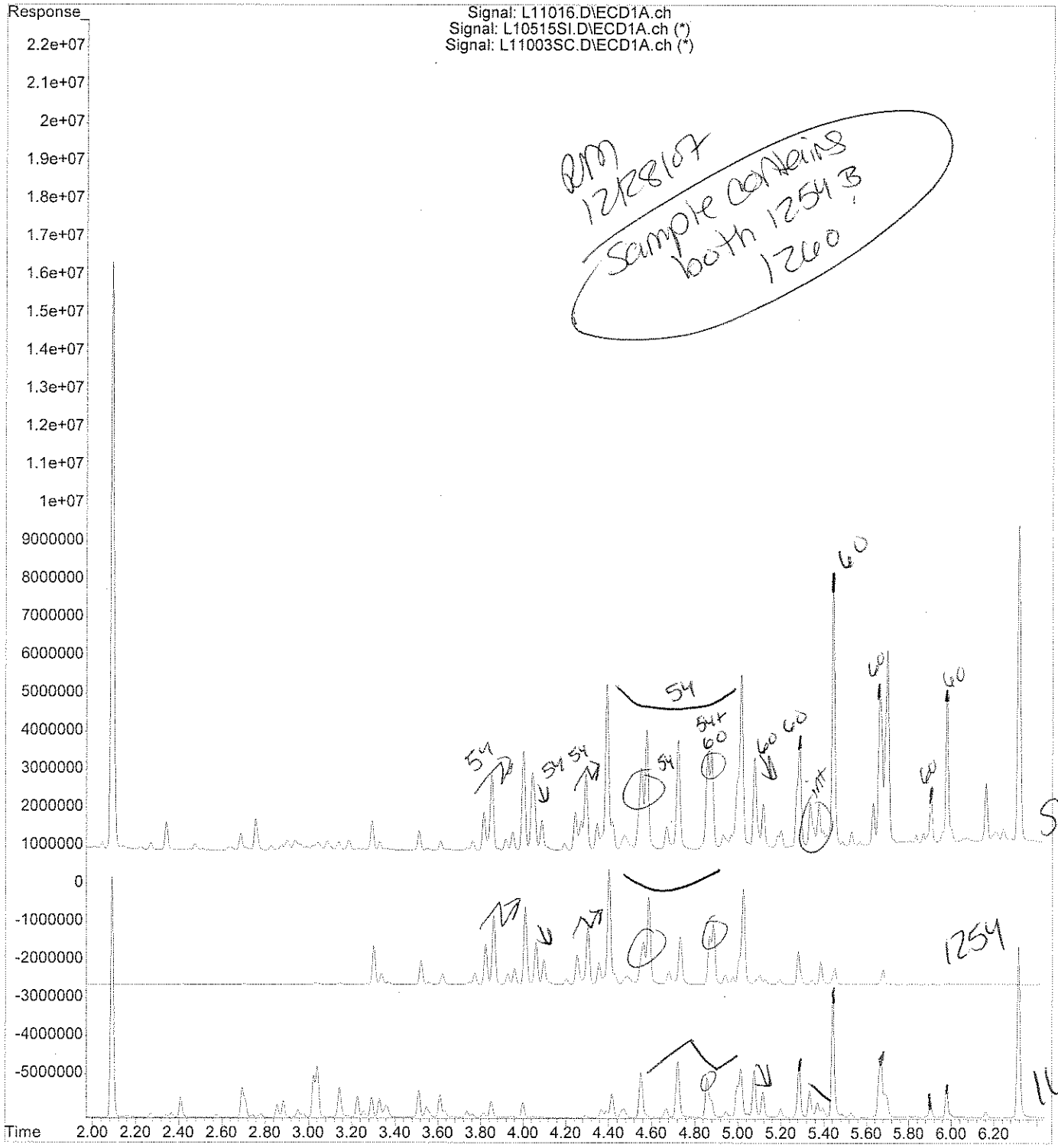
Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:04 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film





File :C:\msdchem\1\DATA\121907-L\L11016.D
Operator :
Acquired : 20 Dec 07 6:10 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-28, A/C
Misc Info : SOIL
Vial Number: 15



51308

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Mr. Rob Klein
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New Haven CT 06510

January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-02

SAMPLE DATA

Lab Sample ID: 60451-29
Matrix: Solid
Percent Solid: 97
Dilution Factor: 10
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date: 12/20/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	330	U
PCB-1221	330	U
PCB-1232	330	U
PCB-1242	330	U
PCB-1248	330	U
PCB-1254	330	**1050**
PCB-1260	330	**1520**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	78	%
Decachlorobiphenyl	44	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-29, 1:10
Data File: L11032.D
Dilution Factor: 10.2

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	1048	1023	2.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-29, 1:10
Data File: L11032.D
Dilution Factor: 10.2

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	1522	1506	1.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

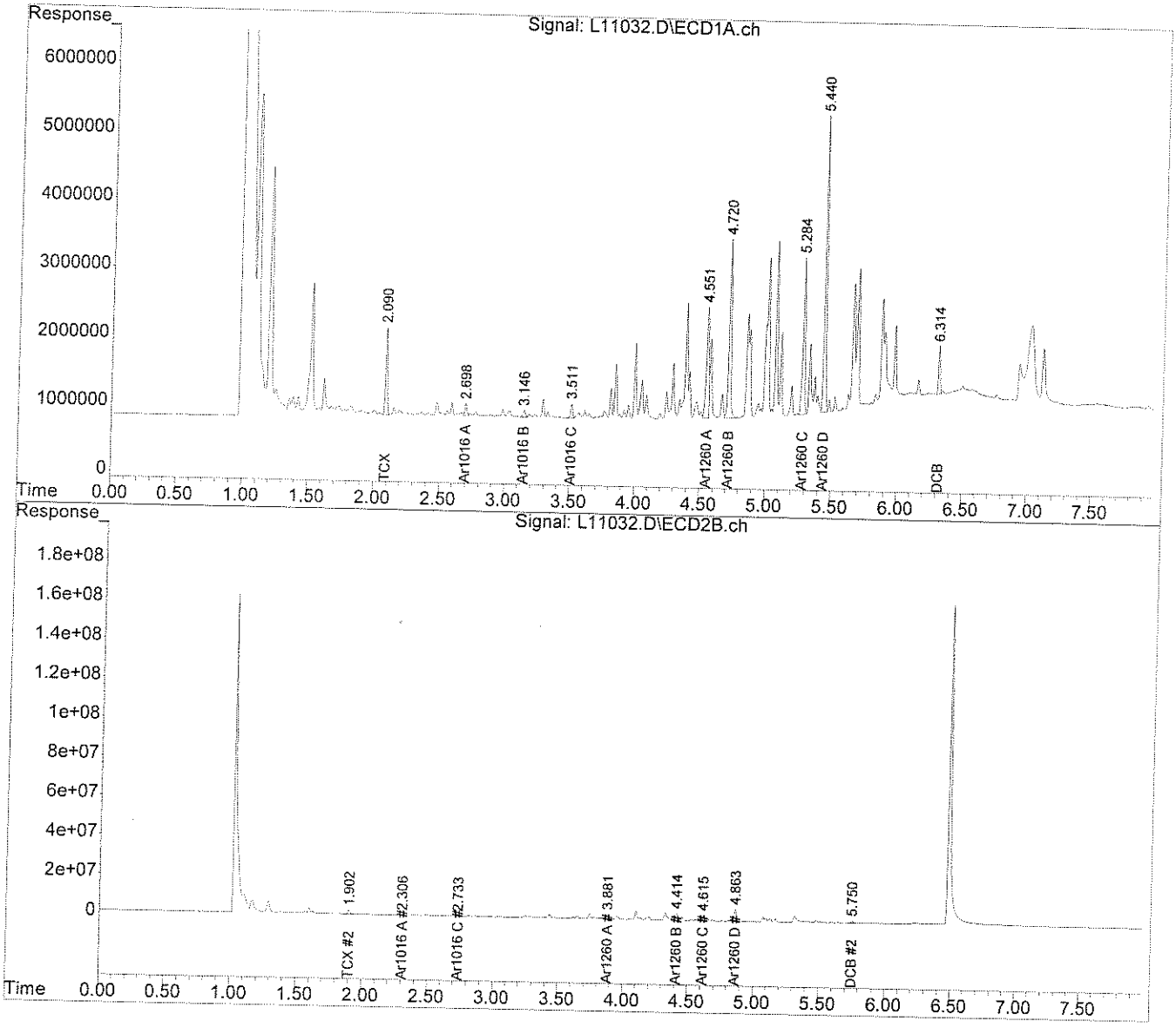
PCB FORM 10

Quantitation Report (Not Reviewed)

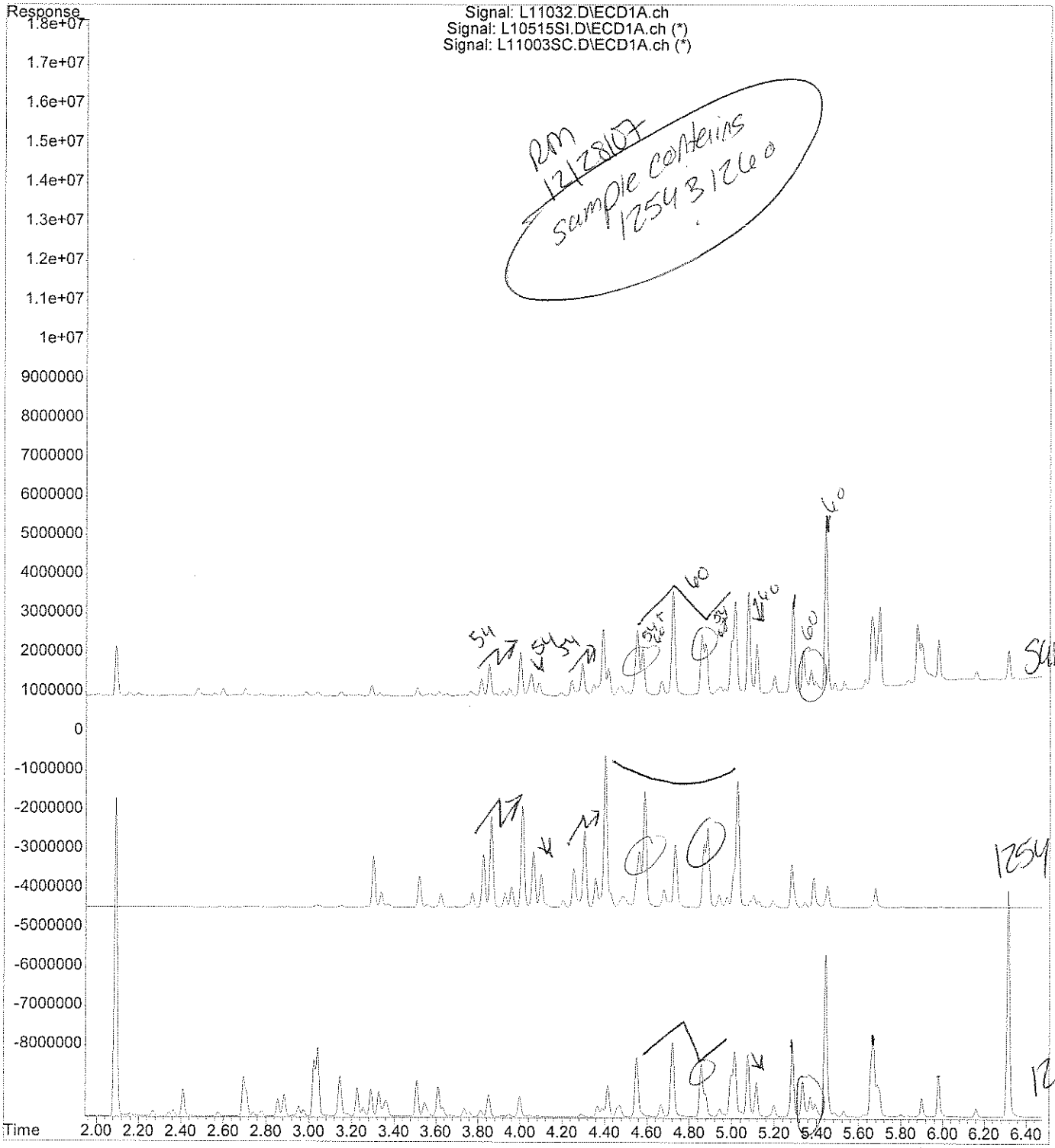
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11032.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 8:54 pm
Operator :
Sample : 60451-29, 1:10
Misc : SOIL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:32 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File : C:\msdchem\1\DATA\121907-L\L11032.D
Operator :
Acquired : 20 Dec 07 8:54 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-29, 1:10
Misc Info : SOIL
Vial Number: 29



1/16/08

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Mr. Rob Klein
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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-03

SAMPLE DATA

Lab Sample ID: 60451-30
Matrix: Solid
Percent Solid: 97
Dilution Factor: 10
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date: 12/20/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	330	U
PCB-1221	330	U
PCB-1232	330	U
PCB-1242	330	U
PCB-1248	330	U
PCB-1254	330	**1230**
PCB-1260	330	**1310**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	78	%
Decachlorobiphenyl	45	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-30, 1:10
Data File: L11033.D
Dilution Factor: 10.2

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	1231	1173	4.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-30, 1:10
Data File: L11033.D
Dilution Factor: 10.2

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	1311	1226	6.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

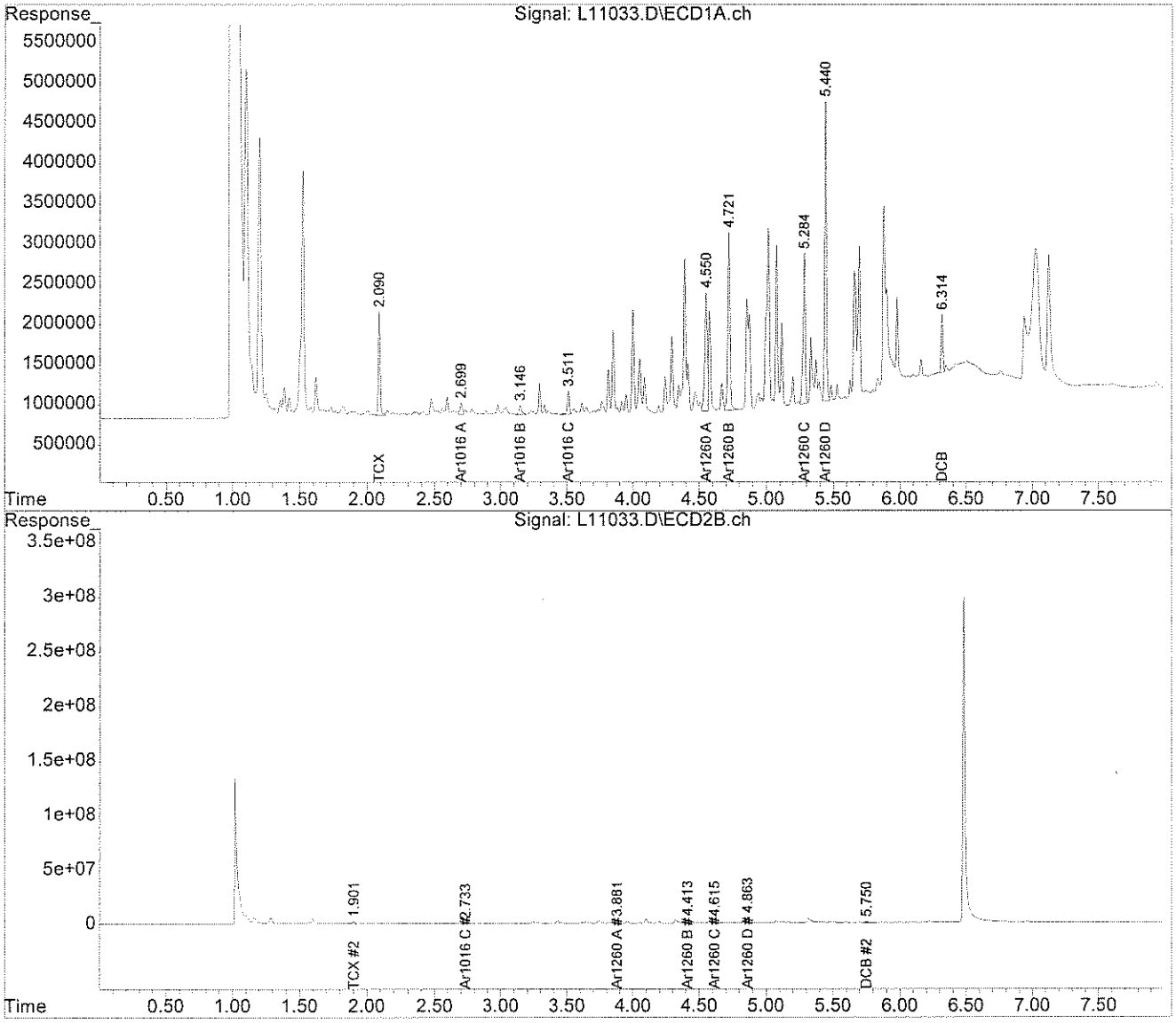
Comments: _____

Quantitation Report (Not Reviewed)

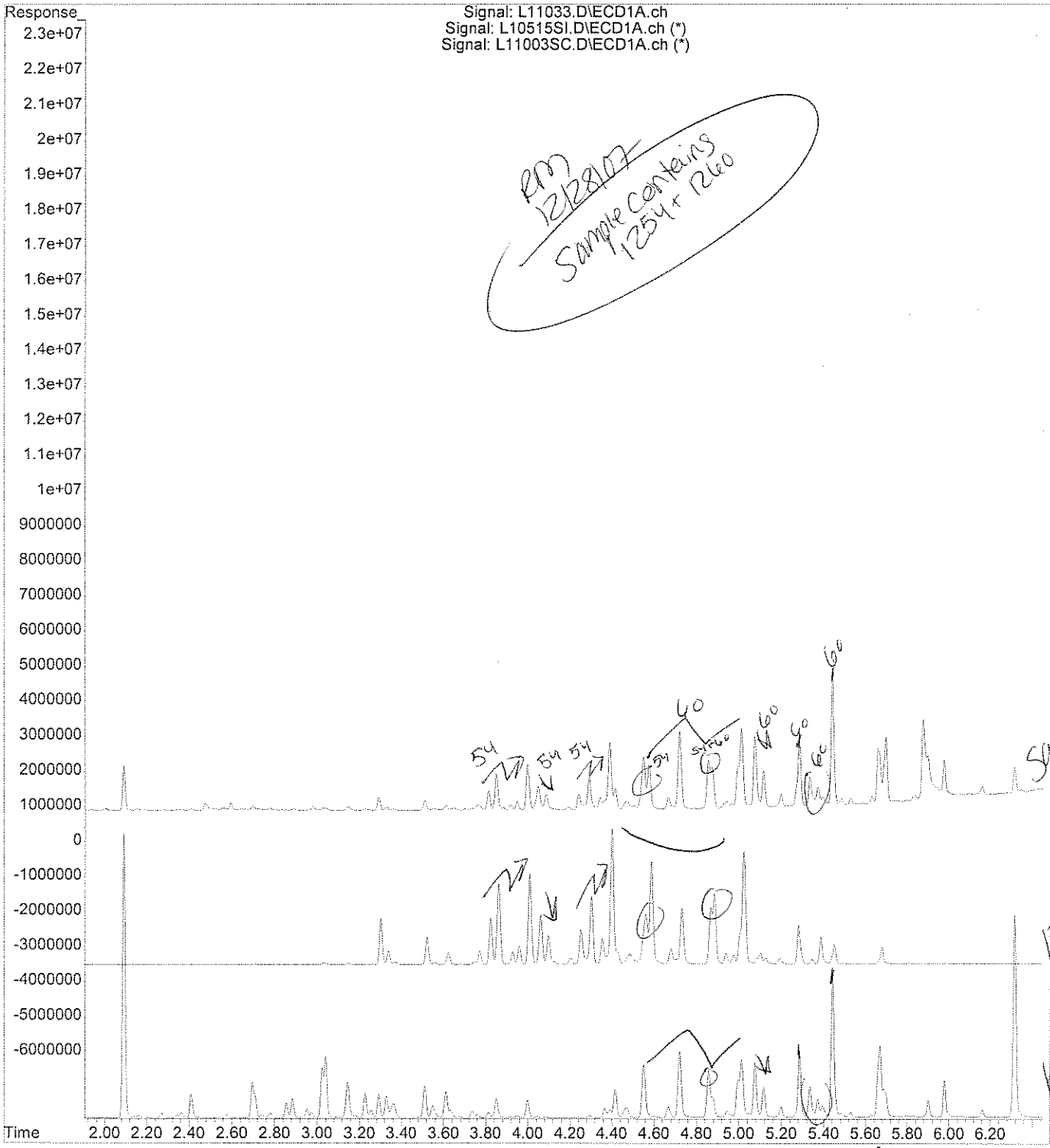
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11033.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 9:04 pm
Operator :
Sample : 60451-30, 1:10
Misc : SOIL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:34 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11033.D
Operator :
Acquired : 20 Dec 07 9:04 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-30, 1:10
Misc Info : SOIL
Vial Number: 30



51-208

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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-04

SAMPLE DATA

Lab Sample ID: 60451-31
Matrix: Solid
Percent Solid: 96
Dilution Factor: 10
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	330	U
PCB-1221	330	U
PCB-1232	330	U
PCB-1242	330	U
PCB-1248	330	U
PCB-1254	330	**1070**
PCB-1260	330	**577**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	108	%
Decachlorobiphenyl	61	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

Authorized signature Mlindall

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-31, DL, 1:10
Data File: L11015.D
Dilution Factor: 10.3

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	1073	1038	3.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG:
Sample: 60451-31, DL, 1:10
Data File: L11015.D
Dilution Factor: 10.3

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	577	425	30.3	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

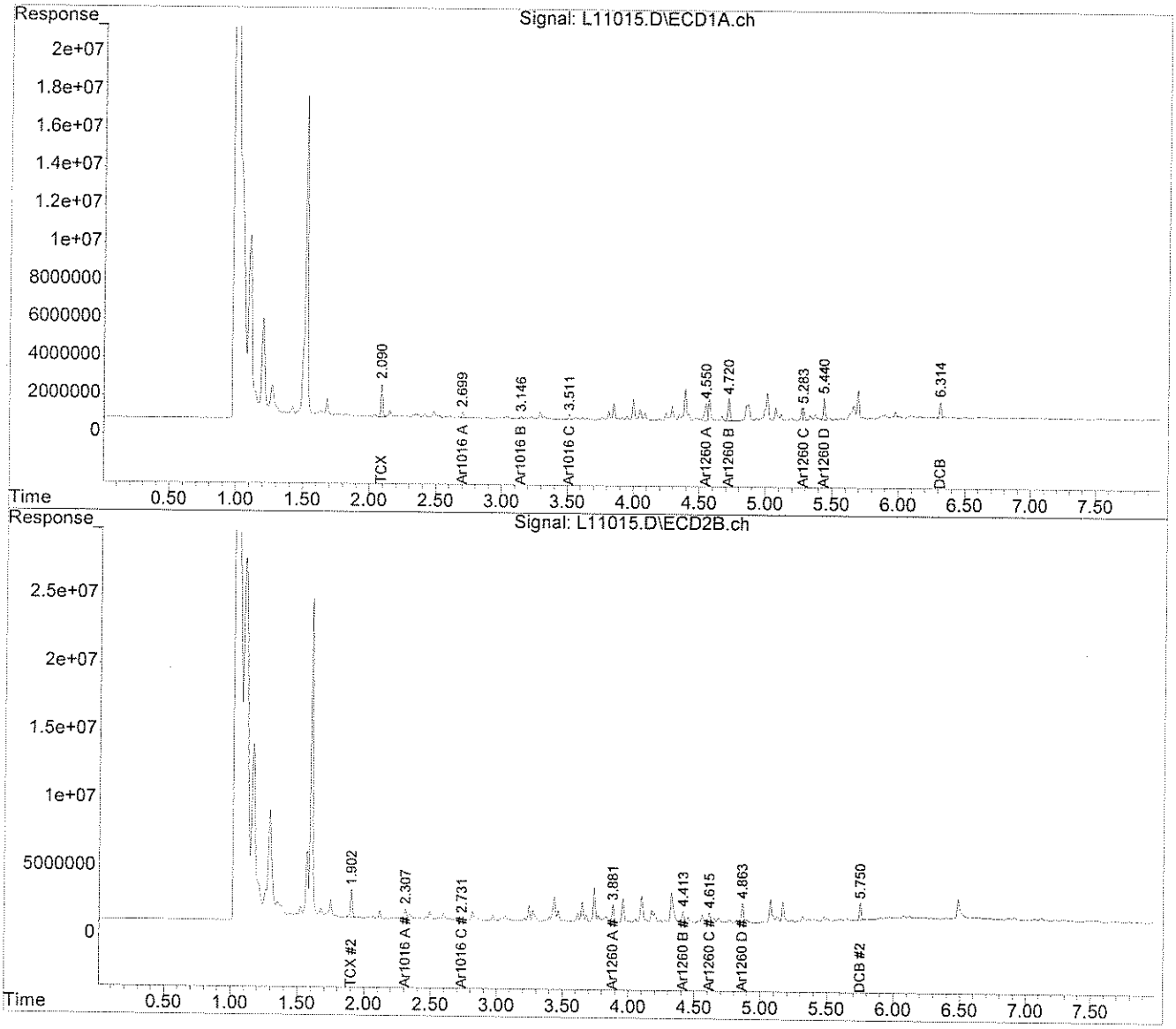
Comments: _____

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11015.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 5:59 pm
Operator :
Sample : 60451-31, DL, 1:10
Misc : SOIL
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:02 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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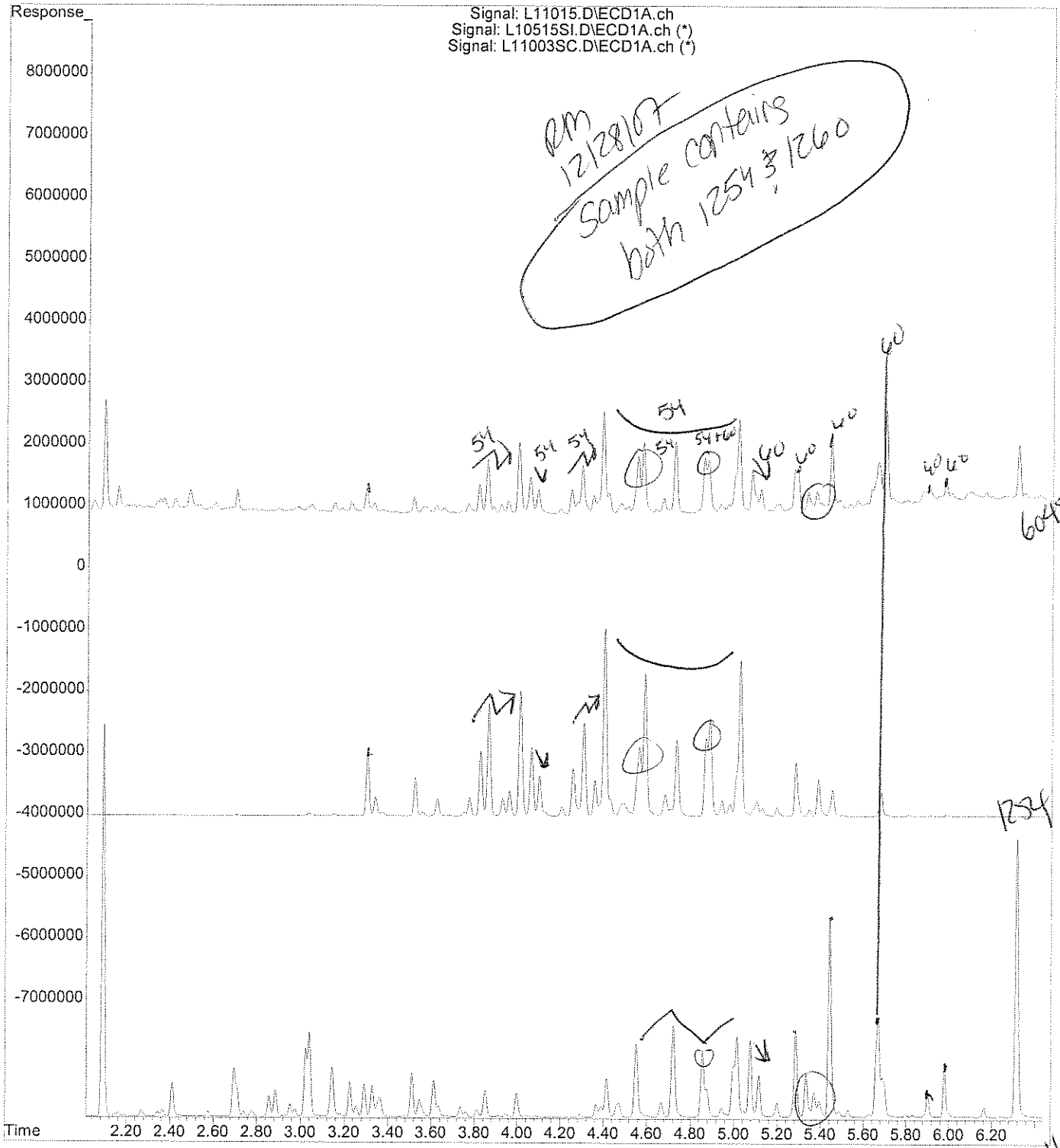
File        :C:\msdchem\1\DATA\121907-L\L11015.D
Operator    :
Acquired    : 20 Dec 07    5:59 pm using AcqMethod PEST.M
Instrument  :    Inst L
Sample Name: 60451-31, DL, 1:10
Misc Info   : SOIL
Vial Number: 14
```



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February 12, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-05

SAMPLE DATA

Lab Sample ID: 60451-32
Matrix: Solid
Percent Solid: 98
Dilution Factor: 5.1
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date: 01/02/08

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	170	U
PCB-1221	170	U
PCB-1232	170	U
PCB-1242	170	U
PCB-1248	170	U
PCB-1254	170	**278**
PCB-1260	170	**121 J**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	84	%
Decachlorobiphenyl	67	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-32, DL, 1:5
Data File: L11137.D
Dilution Factor: 5.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	278	258	7.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-32, DL, 1:5
Data File: L11137.D
Dilution Factor: 5.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	121 J	111 J	8.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

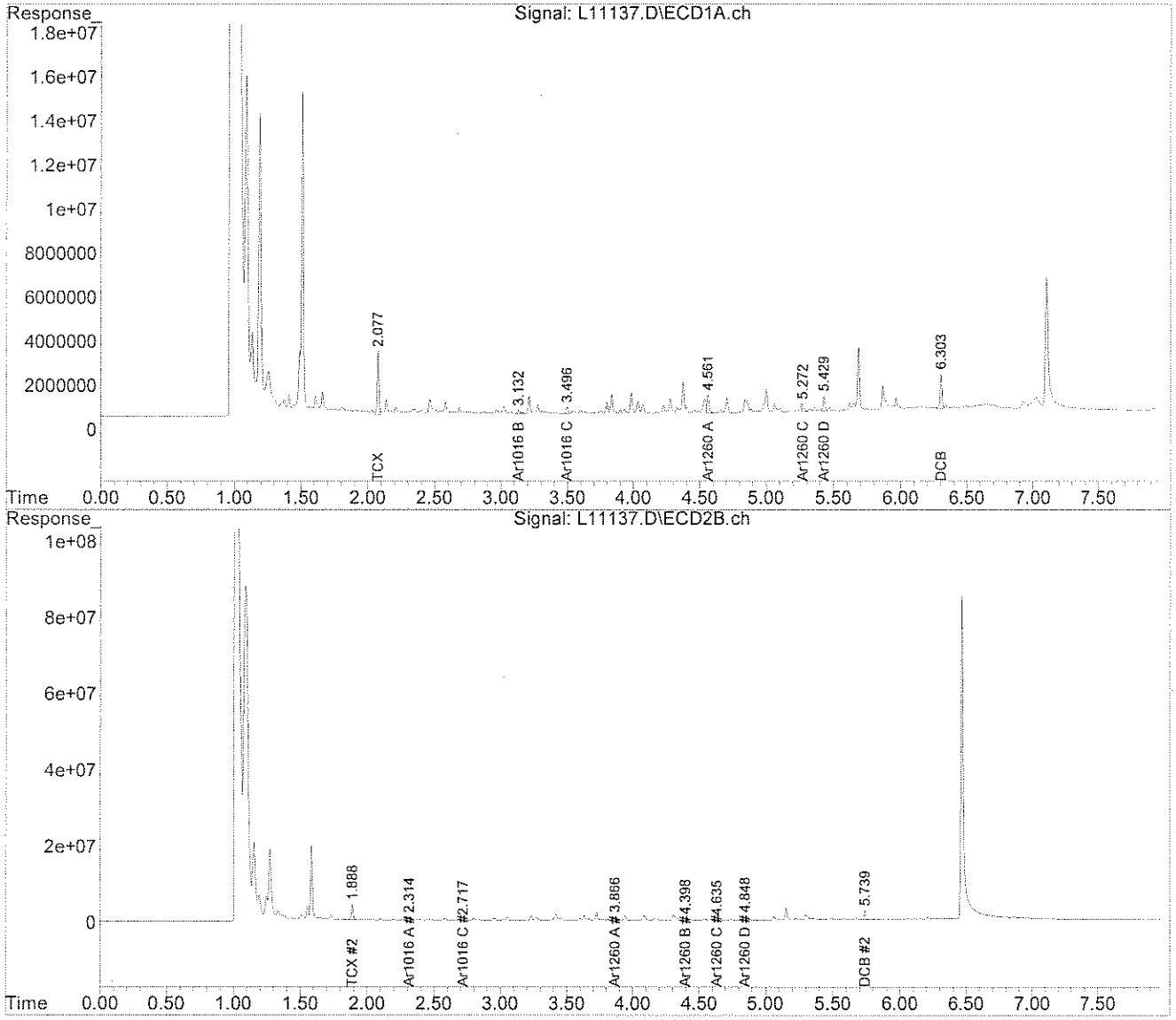
Comments: _____

Quantitation Report (QT Reviewed)

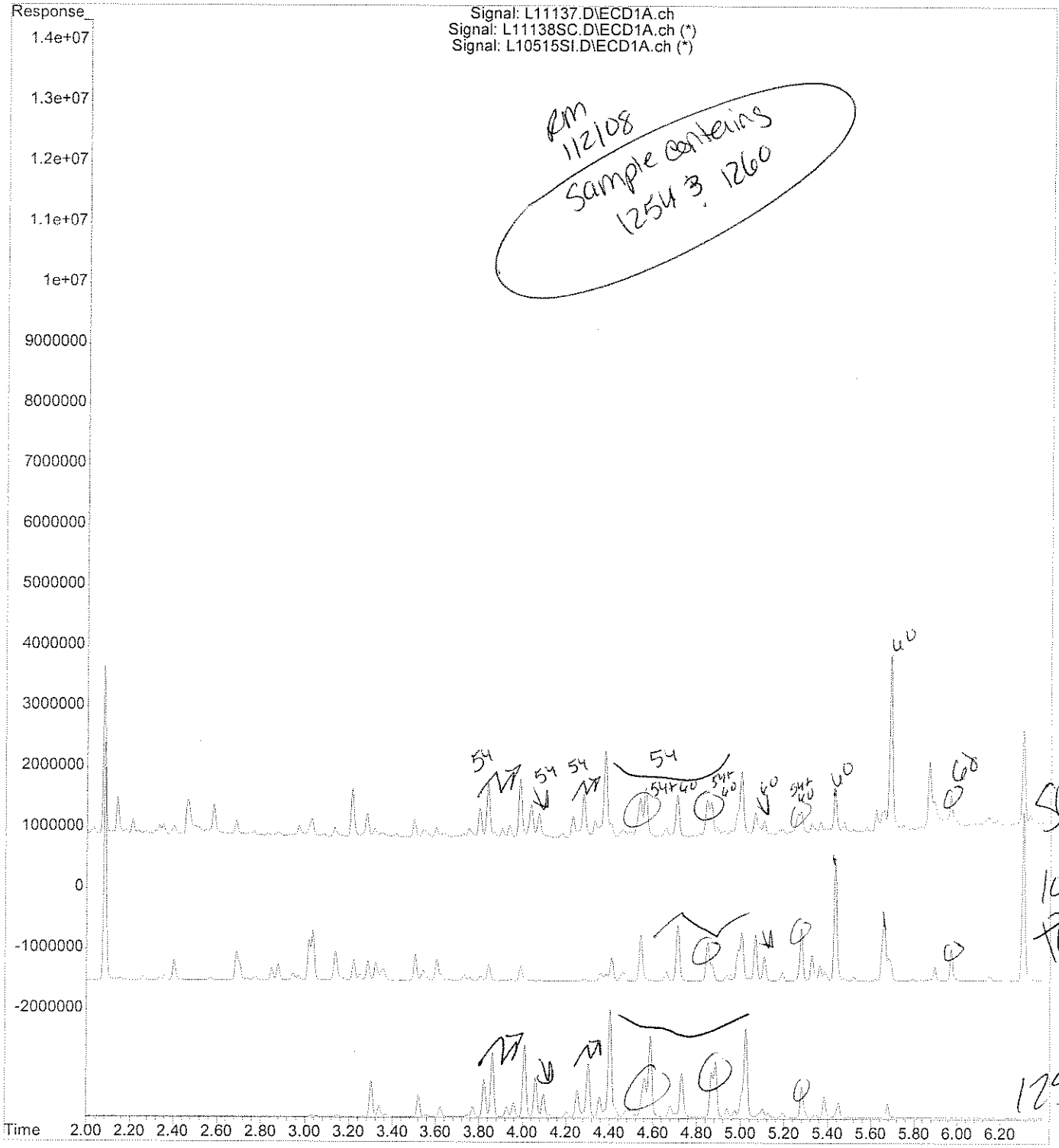
Data Path : C:\msdchem\1\DATA\010208-L\
Data File : L11137.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 2 Jan 08 1:08 pm
Operator :
Sample : 60451-32, DL, 1:5
Misc : SOIL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jan 02 13:57:11 2008
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File : C:\msdchem\1\DATA\010208-L\L11137.D
Operator :
Acquired : 2 Jan 08 1:08 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-32, DL, 1:5
Misc Info : SOIL
Vial Number: 11



1/31-208

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February 12, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-06

SAMPLE DATA

Lab Sample ID: 60451-33
Matrix: Solid
Percent Solid: 97
Dilution Factor: 10
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date: 12/20/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	330	U
PCB-1221	330	U
PCB-1232	330	U
PCB-1242	330	U
PCB-1248	330	U
PCB-1254	330	**563**
PCB-1260	330	**237 J**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	45	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60451

Sample: 60451-33, 1:10

Data File: L11030.D

Dilution Factor: 10.3

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	563	560	0.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB FORM 10

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-33, 1:10
Data File: L11030.D
Dilution Factor: 10.3

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	237 J	191 J	21.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

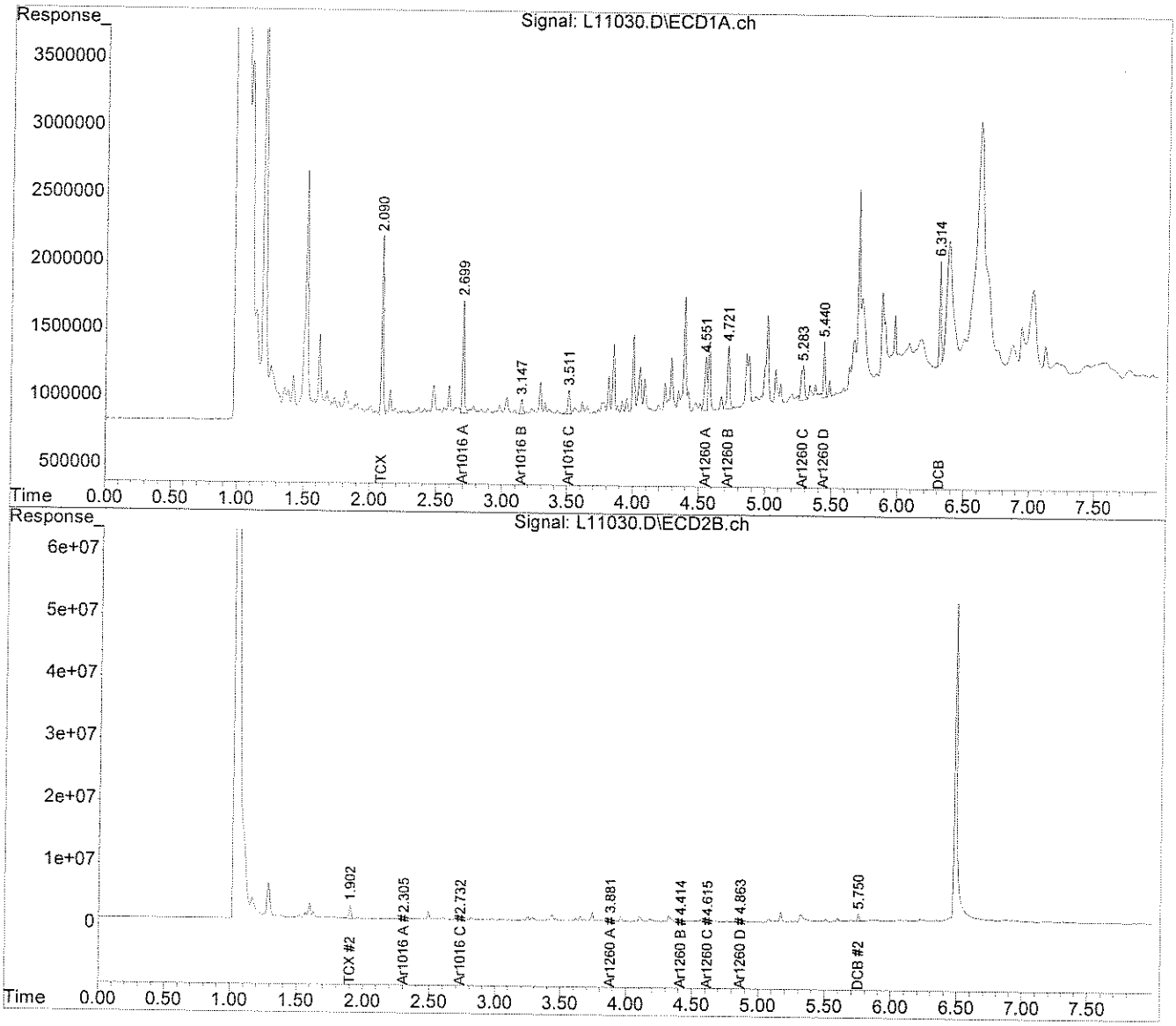
Comments: _____

Quantitation Report (Not Reviewed)

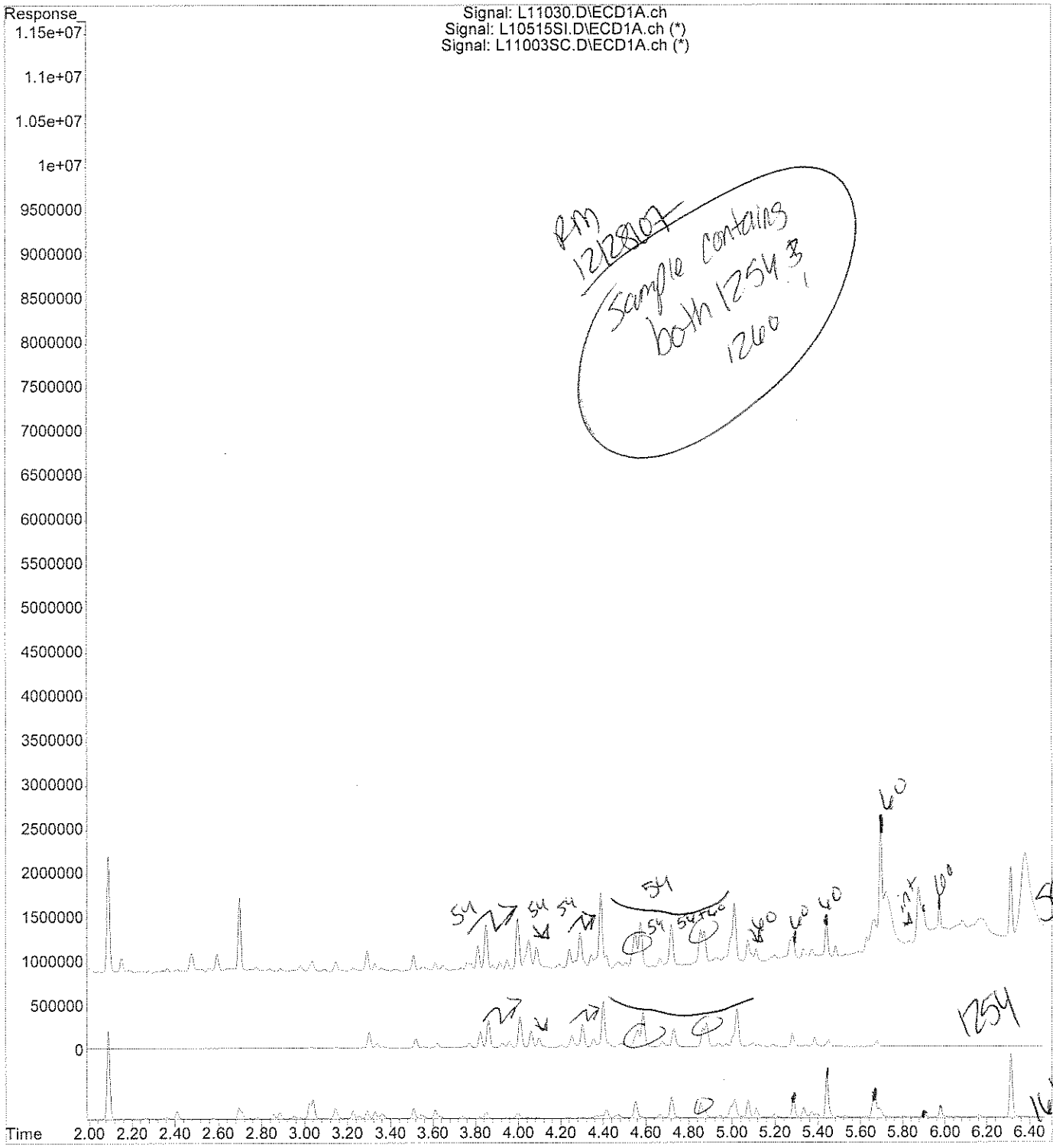
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11030.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 8:33 pm
Operator :
Sample : 60451-33, 1:10
Misc : SOIL
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:28 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File :C:\msdchem\1\DATA\121907-L\L11030.D
Operator :
Acquired : 20 Dec 07 8:33 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-33, 1:10
Misc Info : SOIL
Vial Number: 27



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Mr. Rob Klein
Yale University Environmental Health & Safety
135 College Street
New Haven CT 06510

January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: CC-07

SAMPLE DATA

Lab Sample ID: 60451-34
Matrix: Solid
Percent Solid: 97
Dilution Factor: 10
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	330	U
PCB-1221	330	U
PCB-1232	330	U
PCB-1242	330	U
PCB-1248	330	U
PCB-1254	330	**2920**
PCB-1260	330	**1540**

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	118	%
Decachlorobiphenyl	80	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-34 A/C,1:10
Data File: L11026.D
Dilution Factor: 10.2

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	2919	2747	6.1	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451
Sample: 60451-34 A/C,1:10
Data File: L11026.D
Dilution Factor: 10.2

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	1545	1067	36.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

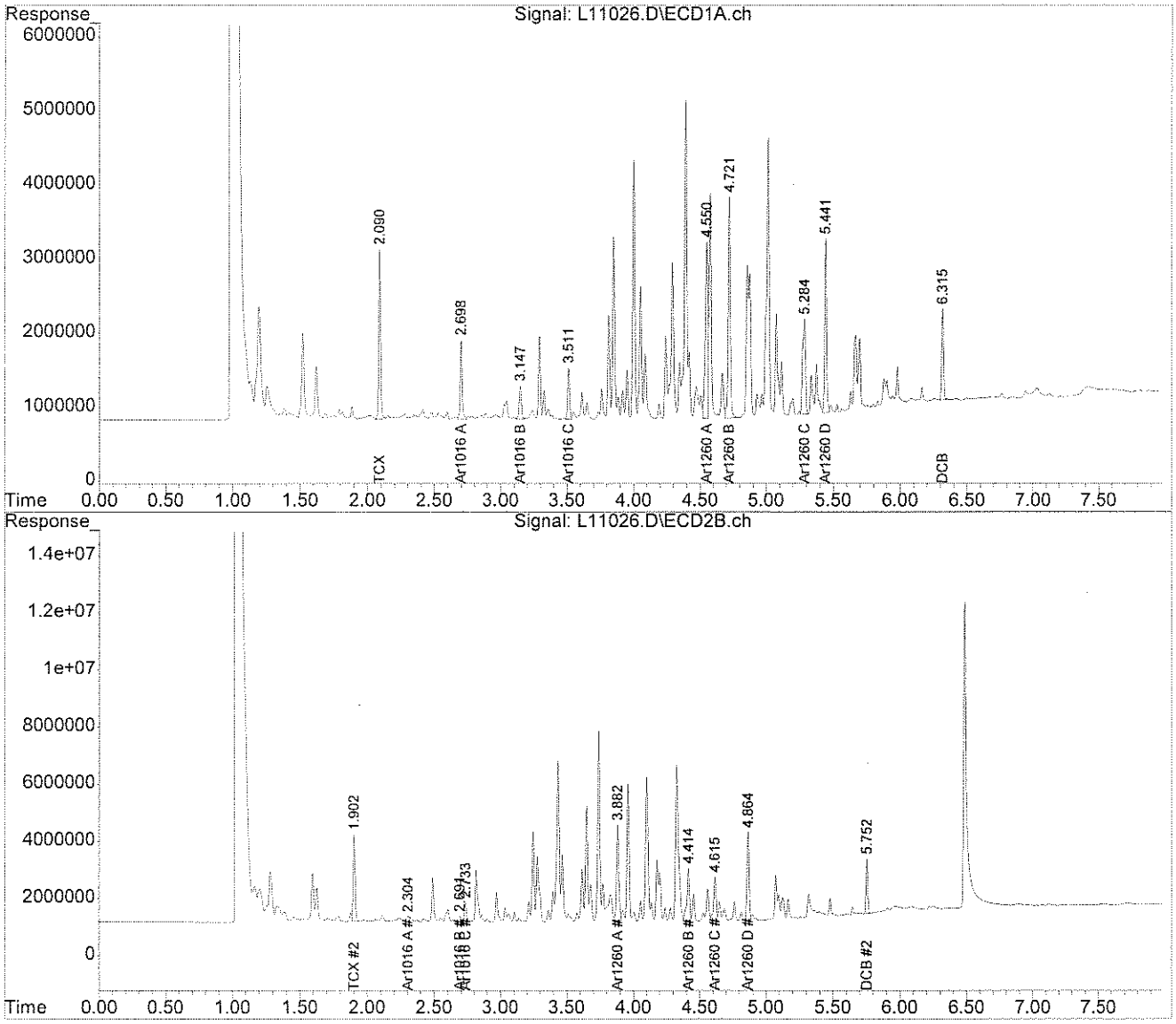
Comments: _____

Quantitation Report (Not Reviewed)

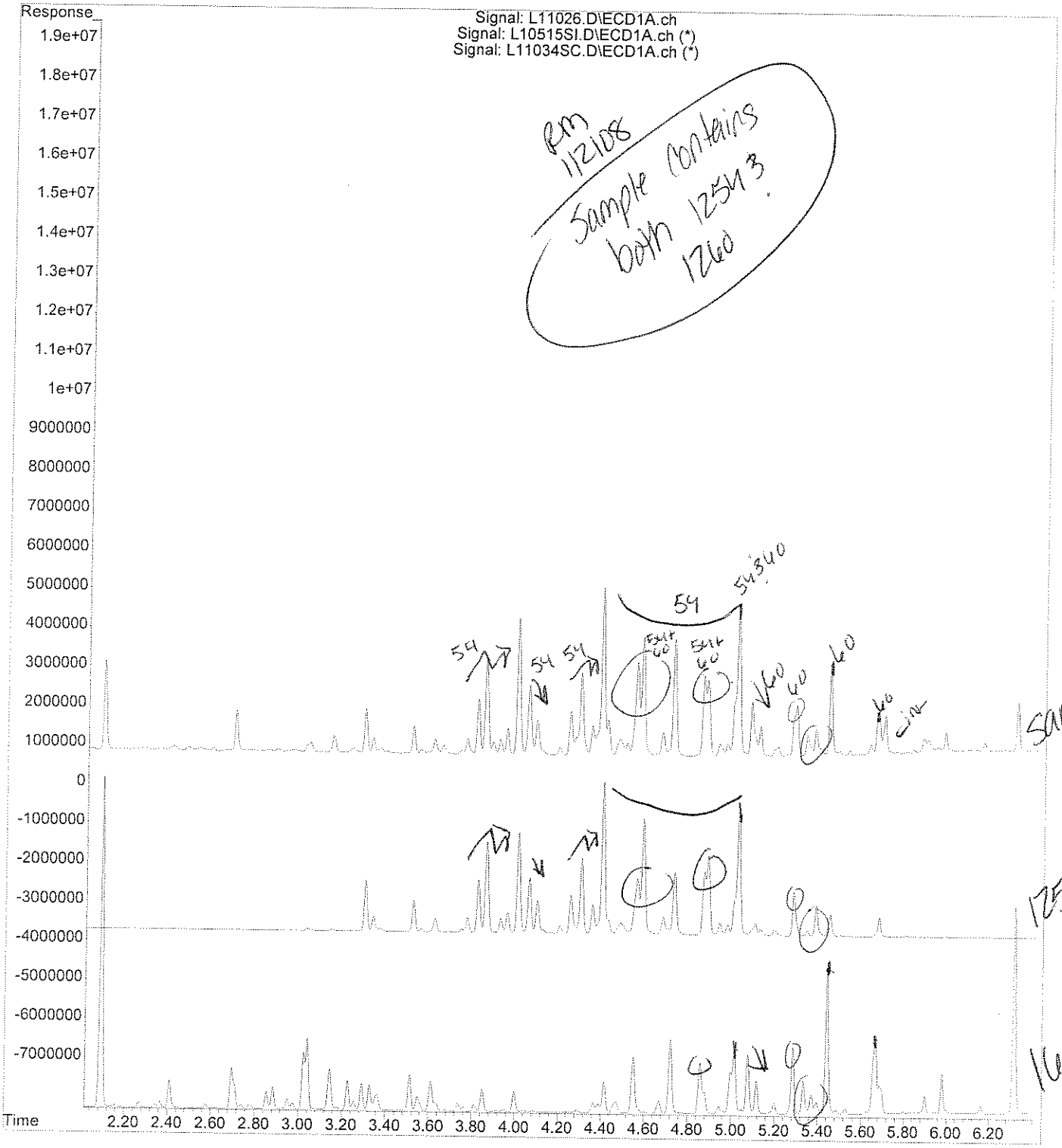
Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11026.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 7:52 pm
Operator :
Sample : 60451-34 A/C,1:10
Misc : SOIL
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:20 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



File : C:\msdchem\1\DATA\121907-L\L11026.D
Operator :
Acquired : 20 Dec 07 7:52 pm using AcqMethod PEST.M
Instrument : Inst L
Sample Name: 60451-34 A/C,1:10
Misc Info : SOIL
Vial Number: 23



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: EB-01

SAMPLE DATA

Lab Sample ID: 60451-35
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date: 12/26/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.1	U
PCB-1221	0.1	U
PCB-1232	0.1	U
PCB-1242	0.1	U
PCB-1248	0.1	U
PCB-1254	0.1	U
PCB-1260	0.1	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	49	%
Decachlorobiphenyl	18*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: * Surrogate recovery outside control limits. Secondary surrogate is in control. Sample was reanalyzed with similar results.

PCB Report

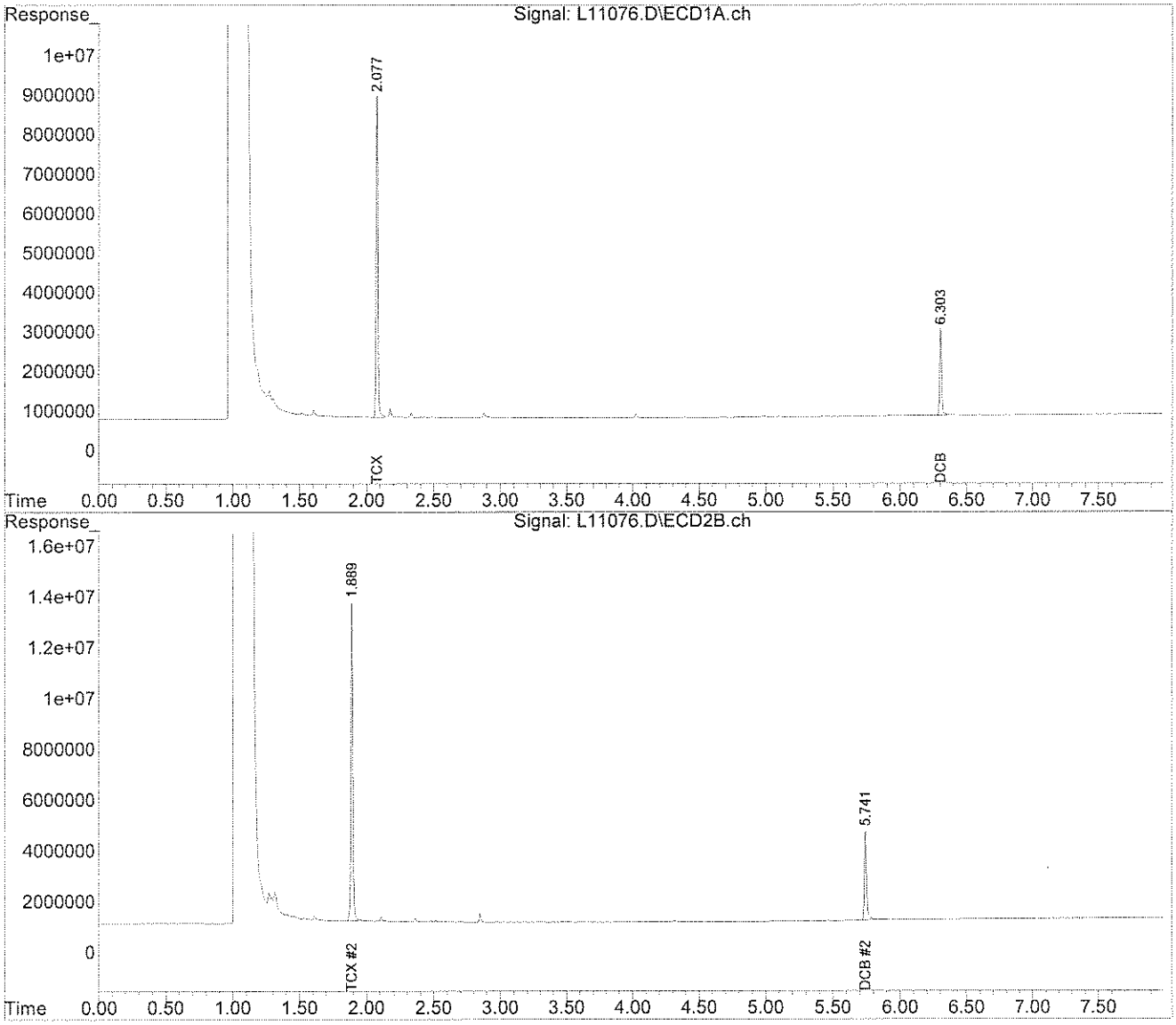
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\122607-L\
Data File : L11076.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 26 Dec 07 10:44 am
Operator :
Sample : 60451-35
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 26 12:06:54 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 3, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: EB-01

SAMPLE DATA

Lab Sample ID: 60451-35 RR
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date: 12/27/07

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.1	U
PCB-1221	0.1	U
PCB-1232	0.1	U
PCB-1242	0.1	U
PCB-1248	0.1	U
PCB-1254	0.1	U
PCB-1260	0.1	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	51	%
Decachlorobiphenyl	18*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: * Surrogate recovery outside control limits. Secondary surrogate is in control. Sample was analyzed previously with similar results.

PCB Report

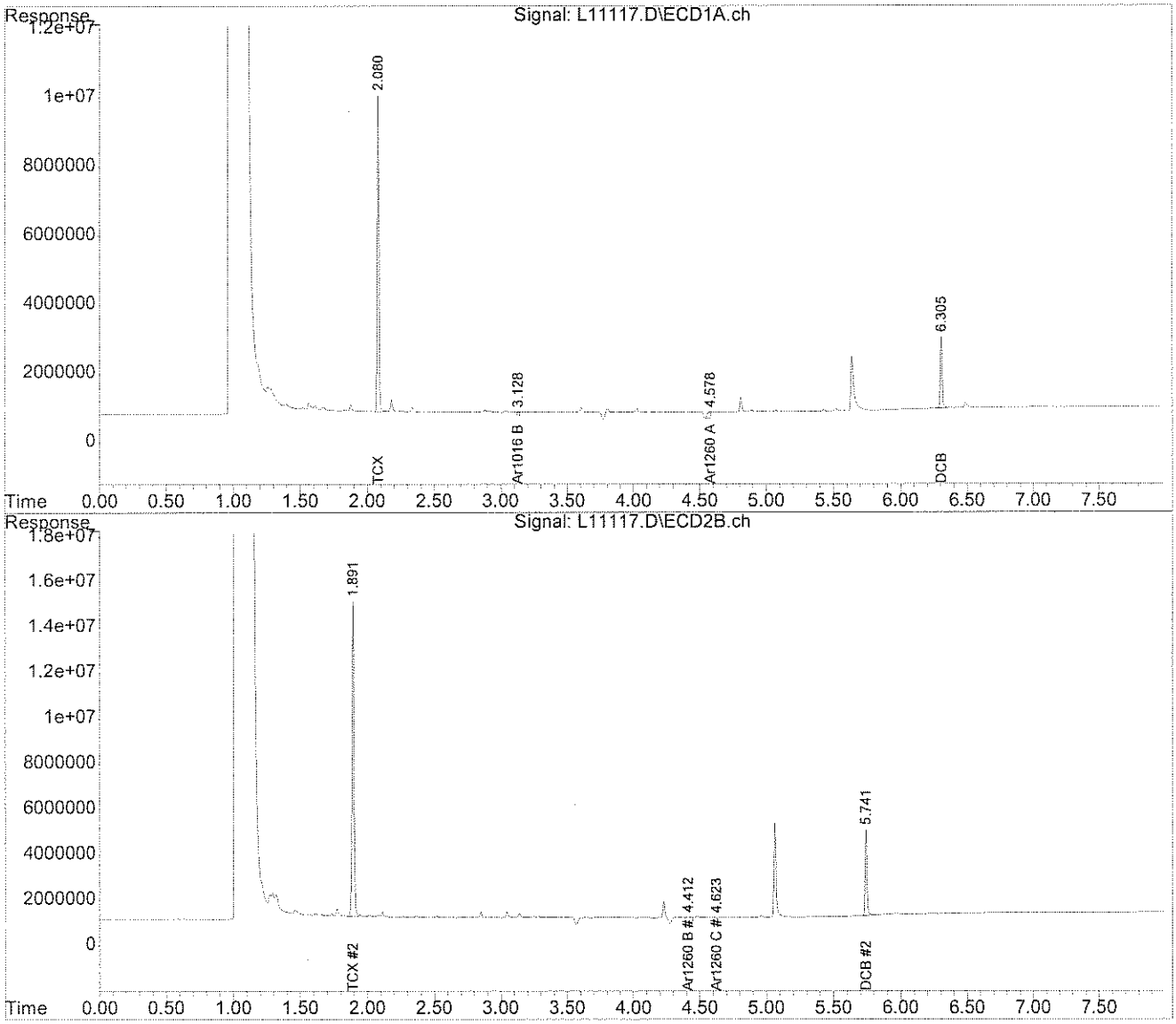
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\122607-L\
Data File : L11117.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 27 Dec 07 2:43 pm
Operator :
Sample : 60451-35, RR
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 28 08:49:05 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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January 2, 2008

CLIENT SAMPLE ID

Project Name: Yale Ion Source Room

Project Number: 210811

Field Sample ID: EB-02

SAMPLE DATA

Lab Sample ID: 60451-36
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 12/17/07
Lab Receipt Date: 12/18/07
Extraction Date: 12/19/07
Analysis Date:

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	93	%
Decachlorobiphenyl	77	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

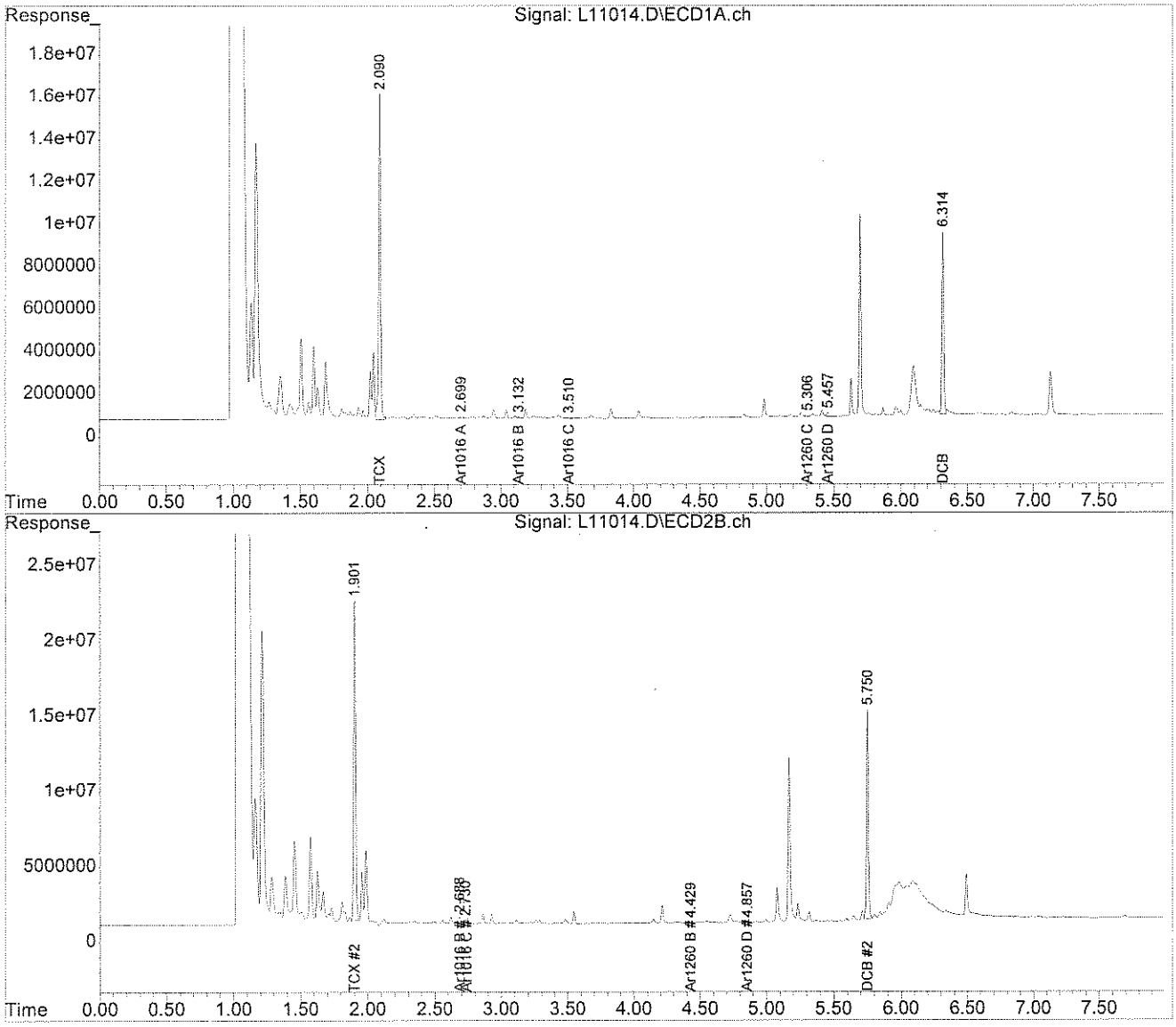
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\121907-L\
Data File : L11014.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 20 Dec 07 5:49 pm
Operator :
Sample : 60451-36, A/C
Misc : SOIL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Dec 21 07:50:00 2007
Quant Method : C:\msdchem\1\METHODS\PB12047.M
Quant Title : Aroclor 1016/1260
QLast Update : Wed Dec 12 13:48:23 2007
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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PCB
QC FORMS

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCBQC.doc

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B12187PSOX, A/C	80		76		78		71	
L12187PSOX, A/C	74		72		73		68	
LD12187PSOX, A/C	78		76		78		72	
60451-1, A/C	84		73		82		68	
60451-2, A/C	82		75		82		70	
60451-3, A/C	80		76		78		72	
60451-4, A/C	81		77		78		72	
60451-5, A/C	75		78		72		72	
60451-6, A/C	82		76		80		71	
60451-7, A/C	85		77		81		71	
60451-8, A/C	82		75		78		70	
60451-9, A/C	85		77		81		73	
60451-10, A/C	85		76		81		72	
60451-11, A/C	84		77		80		72	
60451-12, A/C	86		75		82		70	
60451-13, A/C	86		75		83		69	
60451-14, A/C	85		78		82		73	
60451-15, A/C	85		76		83		71	
60451-16, A/C	81		75		80		70	
60451-17, A/C	82		79		79		73	
60451-18, A/C	80		75		77		69	
60451-19, A/C	78		75		76		69	
60451-20, A/C	82		75		80		69	

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B12197PSOX, A/C	96		75		87		70	
L12197PSOX, A/C	92		76		88		72	
LD12197PSOX, A/C	91		78		87		72	
60451-21, A/C	91		77		83		67	
60451-22, A/C	94		77		87		70	
60451-23, A/C	90		77		84		69	
60451-24, A/C	92		80		86		70	
60451-25, A/C	88		76		84		70	
60451-26, A/C	89		76		81		70	
60451-36, A/C	93		77		84		71	
60451-31, DL, 1:10	108		61		84		50	
60451-28, A/C	89		73		87		68	
60451-27, A/C	90		71		82		60	
B12197PSOX, A/C, RR	96		76		87		69	
60451-34 A/C,1:10	138	*	90		118		80	
60451-33, 1:10	80		45		88		43	
60451-29, 1:10	78		44		85		50	
60451-30, 1:10	78		45		80		47	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB AQUEOUS
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B12197PW	58		17	*	61		16	*
L12197PWB	79		21	*	83		20	*
LD12197PWB	68		21	*	72		20	*
60451-35	45	*	19	*	49		19	*

		Lower Limit	Upper Limit
SMC #1 =	TCX	46	122
SMC #2 =	DCB	26	86

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB AQUEOUS
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B12267PO, A/C	106		57		108		49	
60451-35, RR	51		18	*	54		18	*

		Lower Limit	Upper Limit
SMC #1 =	TCX	46	122
SMC #2 =	DCB	26	86

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: F
GC Column #1: RTX-CLPesticides I
Column ID: 0.32 mm
GC Column #2: RTX-CLPesticides II
Column ID: 0.32 mm

SDG: 60451

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B12317PW	91		67		96		65	
60451-32, DL, 1:5	84		67		71		55	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60451

Non-spiked sample: B12187PSOX, A/C

Spike: L12187PSOX, A/C

Spike duplicate: LD12187PSOX, A/C

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	170	85		179	90		5.4	
PCB 1260	200	200	60	130	30	0	180	90		191	95		5.6	
PCB 1016 #2	200	200	65	140	30	0	185	93		188	94		1.7	
PCB 1260 #2	200	200	60	130	30	0	171	85		181	90		5.7	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60451

Non-spiked sample: B12197PSOX, A/C

Spike: L12197PSOX, A/C

Spike duplicate: LD12197PSOX, A/C

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	198	99		194	97		2.0	
PCB 1260	200	200	60	130	30	0	199	99		202	101		1.8	
PCB 1016 #2	200	200	65	140	30	0	239	119		226	113		5.5	
PCB 1260 #2	200	200	60	130	30	0	186	93		188	94		0.7	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB SOIL
MATRIX SPIKE/DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60451

Non-spiked sample: 60451-28, A/C

Spike: 60451-28, MS, A/C

Spike duplicate: 60451-28, MSD, A/C

COMPOUND	MS SPIKE ADDED (ug/kg)	MSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	213	213	65	140	30	0	350	164	*	230	108		41.3	*
PCB 1260	213	213	60	130	30	221	311	42	*	386	78		21.8	
PCB 1016 #2	213	213	65	140	30	0	247	116		214	101		14.1	
PCB 1260 #2	213	213	60	130	30	188	240	24	*	329	66		31.4	*

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

MS/MSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB AQUEOUS
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE
PERCENT RECOVERY

Instrument ID: F

GC Column #1: RTX-CLPesticides I

Column ID: 0.32 mm

GC Column #2: RTX-CLPesticides II

Column ID: 0.32 mm

SDG: 60451

Non-spiked sample: B12197PW

Spike: L12197PWB

Spike duplicate: LD12197PWB

COMPOUND	LCS SPIKE ADDED (ug/L)	LCSD SPIKE ADDED (ug/L)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#	SPIKE DUP RESULT (ug/L)	SPIKE DUP % REC	#	RPD	#
PCB 1016	2.0	2.0	79	113	25	0.00	1.82	91		1.76	88		3.3	
PCB 1260	2.0	2.0	58	115	25	0.00	1.41	71		1.44	72		2.1	
PCB 1016 #2	2.0	2.0	81	112	25	0.00	1.89	94		1.83	91		3.1	
PCB 1260 #2	2.0	2.0	54	123	25	0.00	1.35	67		1.37	68		1.3	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been volume adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 1, 10/1/02

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 6.7° on ice
3) Received in good condition Y or N
4) pH checked by: N/A
5) Labels checked by: MJ 12-18-07

Project#: 210811 Proj. Name: YALE IMS SOURCE ROOM
Company: WOODARD & CURRAN
Contact: JEFF HAMEL GEORGE FRANKLIN
Address: 35 NE BUSINESS CENTER DRIVE
ANDOVER MA
Phone: 978 557 8150 PO# Quote #
Sampler (Signature): George Franklin

Matrix Key:
WW=Wastewater
SW=Surfacewater
GW=Groundwater
DW=Drinkingwater
S=Soil/Sludge
O=Oil W=WIPE
E=Extract
X=Other

Container Key
P=plastic G=glass

Preservation

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4° C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
WP-1	12-17-07	1150	PCB - 8082							X	W	1	G		60451-1
WP-2		1354	PCB - 8082							X	W	1	G		60451-2
WP-3		1240	PCB - 8082							X	W	1	G		60451-3
WP-4		1249	PCB - 8082							X	W	1	G		60451-4
WP-5		1254	PCB - 8082							X	W	1	G		60451-5
WP-6		1256	PCB - 8082							X	W	1	G		60451-6
WP-7		1258	PCB - 8082							X	W	1	G		60451-7
WP-8		1300	PCB - 8082							X	W	1	G		60451-8
WP-9		1303	PCB - 8082							X	W	1	G		60451-9
WP-10		1306	PCB - 8082							X	W	1	G		60451-10
WP-11		1308	PCB - 8082							X	W	1	G		60451-11
WP-12	12-17-07	1310	PCB - 8082							X	W	1	G		60451-12

Received By: Time: 0933 Date: 12/18/07
Received By: Time: Date:
Received By: Time: Date:

FAX RESULTS? YES (NO)
Fax # _____

Turnaround Request
Standard ☑ Due Date _____
Priority ☐ Due Date _____

Comments / Instructions:
SOXLET EXTRACTION
BILL DIRECT TO YALE (ROBERT KLEIN)
EB-01 √d for resid. chlor. w/KI paper: neg. NF 12-18-07

Relinquished By Sampler:
Relinquished By:
Relinquished By:

Analytics\AEL Documents\AEL COC

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 1, 10/1/02

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 6.7°C on Ice
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: JJ 12-18-07

Project#: 210811 Proj. Name: Yale Ion Source Room
Company: Woodard & Curran
Contact: Jeff Hamel George Franklin
Address: 35 NE Business Center Drive
Andover MA
Phone: 978 557 8150 PO# Quote #
Sampler (Signature): [signature]

Matrix Key:
WW=Wastewater
SW=Surfacewater
GW=Groundwater
DW=Drinkingwater
S=Soil/Sludge
O=Oil W=WIPE
E=Extract
X=Other

Container Key
P=plastic G=glass

Preservation: Unpres | 4°C | HNO3 | H2SO4 | HCL | Methanol | Other

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4°C	HNO3	H2SO4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
WP-13	12-17-07	1313	PCB-8082							X	W	1	G		60451-13
WP-14		1315	PCB-8082							X	W	1	G		60451-14
WP-15		1322	PCB-8082							X	W	1	G		60451-15
WP-16		1325	PCB-8082							X	W	1	G		60451-16
WP-17		1327	PCB-8082							X	W	1	G		60451-17
WP-18		1329	PCB-8082							X	W	1	G		60451-18
WP-19		1331	PCB-8082							X	W	1	G		60451-19
WP-20		1334	PCB-8082							X	W	1	G		60451-20
WP-21		1324	PCB-8082							X	W	1	G		60451-21
WP-22		1339	PCB-8082							X	W	1	G		60451-22
WP-23		1342	PCB-8082							X	W	1	G		60451-23
WP-24	12-17-07	1344	PCB-8082							X	W	1	G		60451-24

Received By: [signature] Time: 0730 Date: 12/18/07
Received By: Time: Date:
Received By: Time: Date:

FAX RESULTS? YES NO
Fax # _____

Turnaround Request
Standard ☑ Due Date _____
Priority ☐ Due Date _____

Comments / Instructions:
SOXLET EXTRACTION
Bill Direct To Yale (Robert Klein)
EB-01 ✓d for residual chlorine w/KI paper: negative, NF 12-18-07

Relinquished By: [signature]
Relinquished By:
Relinquished By:

Analytics\AEL Documents\AEL COC

Chain Of Custody Form

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 1, 10/1/02

Samples were:
1) Shipped or ~~hand-delivered~~ (circled)
2) Temp blank °C 6.7°C on Ice
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: [initials] 12-18-07

Project#: ~~210822~~ 210811
Proj. Name: YALE low SURGE ROOM
Company: WOODARD & CURRAN
Contact: ~~35~~ JEFF HAMEL GEORGE FRANKLIN
Address: 35 NE BUSINESS CENTER DRIVE
ANDOVER MA
Phone: 978 557 8150 PO# Quote #
Sampler (Signature): [signature]

Matrix Key:
WW=Wastewater
SW=Surfacewater
GW=Groundwater
DW=Drinkingwater
S=Soil/Sludge
O=Oil W=WIPE
E=Extract C=CONCRETE
X=Other

Container Key
P=plastic G=glass

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4°C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Container number	Container type	pH	Analytics Sample #
WP-25	12-17-07	1346	PCB-8082							X	W	1	G		60451-25
WP-26	12-17-07	1349	PCB-8082							X	W	1	G		-26
WP-27	12-17-07	1352	PCB-8082							X	W	1	G		-27
CC-01	12-17-07	1156	PCB-8082	X					GF	X	C	1	G		-28
CC-02	12-17-07	1420	PCB-8082	X					GF	X	C	1	G		-29
CC-03	12-17-07	1420	PCB-8082	X					GF	X	C	1	G		-30
CC-04	12-17-07	1428	PCB-8082	X					GF	X	C	1	G		-31
CC-05	12-17-07	1434	PCB-8082	X					GF	X	C	1	G		-32
CC-06	12-17-07	1439	PCB-8082	X							C	1	G		-33
CC-07	12-17-07	1446	PCB 8082	X							C	1	G		-34
EB-01	12-17-07	1452	PCB 8082	X							X	1	G		-35
EB-02	12-17-07	1459	PCB 8082							X	W	1	G		-36

Relinquished By Sampler: [signature]	Date: 12/18/07	Time: 0930	Received By: [signature]
Relinquished By: [signature]	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

FAX RESULTS? YES (NO)
Fax #

Turnaround Request
Standard [✓] Due Date
Priority [ ] Due Date

Comments / Instructions:
SOXLET EXTRACTION
BILL DIRECT TO YALE (ROBERT KLEIN)
EB-01 ✓d for KI (–) NF 12-18-07

Page 3 of 3

Analytics\AEL Documents\AEL COC

analytics environmental laboratory LLC

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: L0451 COOLER NUMBER: _____

CLIENT: YALE NUMBER OF COOLERS: 1

PROJECT: 210811 DATE RECEIVED: 12-18-07

A: PRELIMINARY EXAMINATION: DATE COOLER OPENED: 12-18-07

1. Cooler received by(initials) Date Received: 12-18-07
2. Did cooler come with a shipping slip? Y (NA)

If YES, enter carrier name and airbill number here: _____

3. Were custody seals on the outside of cooler? Y (N)
How many & where: _____ Seal Date: _____ Seal Name: _____
4. Did the custody seals arrive unbroken and intact upon arrival? (Y) N
5. COC#: _____
6. Were Custody papers filled out properly (ink,signed, etc)? (Y) N
7. Were custody papers sealed in a plastic bag? (Y) N
8. Did you sign the COC in the appropriate place? (Y) N
9. Was the project identifiable from the COC papers? (Y) N
10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 6.7°

B. Log-In: Date samples were logged in: 12-18-07 By: PJM

11. Type of packing in cooler (bubble wrap) popcorn) (Y) N
12. Were all bottles sealed in separate plastic bags? (Y) N
13. Did all bottles arrive unbroken and were labels in good condition? (Y) N
14. Were all bottle labels complete(ID,Date,time,etc.) (Y) N
15. Did all bottle labels agree with custody papers? (Y) N
16. Were the correct containers used for the tests indicated: (Y) N
17. Were samples received at the correct pH? Y (N/A)
18. Was sufficient amount of sample sent for the tests indicated? (Y) N
19. Were bubbles absent in VOA samples? Y (N/A)

If NO, List sample #'s: _____

20. Laboratory labeling verified by (initials): Date: 12-18-07

APPENDIX E: PRODUCT TECHNICAL INFORMATION

CHEMICAL SOLUTIONS INTERNATIONAL

Less Than 10

(Catalog # RP-101)

General Information - Application Information - MSDS

Less Than 10 is a formulate which assists environmental contractors and private industry in the environmentally sensitive and labor intensive process of cleaning up organic problems (i.e. PCB's) and **meets EPA guidelines in 40CFR 761.79 regarding PCB cleaning products.** Until now, the removal of organics has been a time consuming operation plagued by expensive disposal and repeated applications of less effective solvents.

This non-hazardous, fast-acting surfactant, effectively reduces **PCB** contamination from **concrete**, **brick** and **other masonry surfaces** by an average of 90% per application with a dwell time of only 15 (fifteen) minutes. Its effectiveness internally averages 60% per application to depths of 1 ½ inches on porous surfaces after a 1 (one) hour dwell time. Aside from being an extremely effective cleaner, **Less Than 10** is **non-toxic**, **non-flammable** and **biodegradable** in its pure state (facts that should satisfy even the most prudent environmental or safety manager).

With personnel safety and public concern regarding the use of environmentally harmful solvents, **Chemical Solutions International Corporation** developed **Less Than 10** as an alternative of choice.

Less Than 10 and resulting rinsate work very effectively when run through carbon filtration systems. Most of the PCB's in solution will attach themselves to the carbon filters.

Back to Main Catalog

CHEMICAL SOLUTIONS INTERNATIONAL

Less Than 10

(Catalog # RP-101)

General Information - Application Information - MSDS

I. **Less Than 10** is designed to clean PCB's from concrete and other masonry products.

II. Application instructions are as follows:

A. Throughly clean all dirt and other debris from the area to be decontaminated.

B. Apply **Less Than 10** at full strength to the surface to be cleaned. One gallon covers approximately 100 sq. ft. for the 1(one) hour application and 150 sq.ft. for a 15 (fifteen) minutes application. See D.

C. To assist the cleansing action, rub surface with a hard, durable bristle brush. For large areas a commercial buffer with a bristle pad should be used.

D. For surface decontamination allow **Less Than 10** to sit for 15 (fifteen) minutes. For subsurface application, allow 1(one) hour.

E. Throughly rinse area with water or steam.

F. Vacuum up all rinse water for disposal.

G. Samples of the cleansed area should be taken to determine level of reduction. For further cleaning repeat steps A. through G.

Back to Main Catalog

CHEMICAL SOLUTIONS INTERNATIONAL

Less Than 10

(Catalog # RP-101)

General Information - Application Information - MSDS

I Product: LESS THAN TEN	
Description: Yellowish Liquid Manufacturer: **Chemical Solutions Int'l. Corp.** **P.O. Box 891185** **Houston, TX 77289-1185**	Date Prepared: September 2003. Emergency Telephone No. **(281) 992-3031** **(800) 424-4804** E-mail: chemsol@chemicalsolutionsintl.com Home Page: www.chemicalsolutionsintl.com

II Health Hazards (Acute & Chronic)

EYES: Will cause burns, possible loss of sight.
SKIN: Burns, chapping.
INHALATION: Irritation of respiratory tract.
INGESTION: Severe burns to gastrointestinal tract.

SIGNS & SYMPTOMS OF EXPOSURE:
EYES:Burning, redness, tearing.
SKIN: Redness, buns.
INHALATION: Coughing, dizziness, nausea.
INGESTION: Burns on lips, mouth.
FIRST AID: EYES: Flush 15 minutes with water.
SKIN:Wash with soap and water.
INHALATION: Do not induce vomiting. If any irritation persists, seek medical attention.

III Precautions for Safe Handling & Use:

If material is spilled, remove leaking package to safe area. Flush with water.
Disposal: Any approved method for neutralized acid. Surfactants are highly biodegradable. Avoid spills, store away from strong caustics and oxidizers.

IV Physical Data:

pH..... Higher than 2.2

V Hazardous Ingredients:

LESS THAN TEN is a proprietary formulation which contains small amounts of mineral and organic acids and this product should be handled accordingly.
Complies with OSHA 29 CFR XVIII-1910.1200 Section (i) "Trade Secrets". Contains no hazardous components under current OSHA definitions.

VI Special Protection and Precautions:

Work Practices: Wear goggles or face shield. Rubber Gloves.
Hygienic Practices: Wash after each shift. Remove and wash contaminated clothing before re-use.
Other Protective Clothing: Rubber slicker suits or apron. Sleeved shirt buttoned at collar.

VII Reactivity Data:

Stable under normal use and storage conditions. Incompatible with strong alkalis and caustic materials.

VIII Fire & Explosion Data:

2 Flash Point/Method Used..... None/COC.

IX Control Measures:

Respiratory Protection: Not Necessary.
Ventilation: Local Exhaust/Necessary.

Solubility in water..... 100% Boiling Point..... 212°F Vapor Pressure/Density..... Same as water Evaporation Rate (Butyl Acetate=1).....<1 Appearance & Odor: Yellowish liquid with medium viscosity and citrus odor. Specific Gravity (H2 O) = 1.....1.06	Mechanical/Recommended in confined spaces. (Complies with OSHA 174, Sep. 1985.)

HMIS CODE: Health 1 Flammability 0 Reactivity 0 Personal Protection B

"To the best of our knowledge the information contained in this MSDS is accurate. However, neither Chemical Solutions Int'l. Corp. nor any of its affiliates makes any warranty expressed or implied, or accepts any liability in connection with this information or its use."

Back to Main Catalog

CHEMICAL SOLUTIONS INTERNATIONAL

Pipe X-Metal X

(Catalog # RP-102)

General Information - Application Information - MSDS

"Quick Contact"

Pipe X-Metal X is designed to clean **PCB contamination** from all surfaces other than concrete and masonry products. **Pipe X-Metal X meets EPA guidelines in 40CFR 761.79 regarding PCB cleaning products.** It is also environmentally safe, non-flammable, non-toxic, non-corrosive and biodegradable. We realize that PCB contamination in pipe, machinery, electrical equipment, plastic and wooden surfaces is a major problem. **Pipe X-Metal X** is a solution for that problem. It can be used on the interior and exterior walls of **pipe, metal tanks, metal buildings, inside and outside machinery, truck beds and trailers, electrical equipment and any other surface that is contaminated.** It will not harm rubber or other types of seals that may exist in tubing, pipe or machinery. **Each application of Pipe X-Metal X achieves an average reduction rate of 95% of the contamination with a dwell time of only 15 minutes.** Safety is always a major concern. **Pipe X-Metal X** is an excellent alternative to the use of toxic and environmentally destructive chlorinated solvents. It is water soluble, non-hazardous and supports our commitment to non-hazardous solutions for environmental problems.

Pipe X-Metal X and PCB rinsate will attach themselves to carbon filters when run through these types of filtration systems.

Back to Main Catalog

CHEMICAL SOLUTIONS INTERNATIONAL

Pipe X-Metal X

(Catalog # RP-102)

General Information - **Application Information** - MSDS

I. **Pipe X- Metal X** is specifically formulated to clean metal, plastic and other surfaces except concrete. All sludge must be removed from the surface of the metal to be cleaned. Once this is accomplished, the following steps should be taken.

II. Application instructions are as follows:

A. Apply **Pipe X-Metal X** by spraying, painting, etc., so that the product comes in contact with all surfaces to be cleaned.

B. If possible, the surface should then be brushed to agitate the product to enhance cleaning.

C. Allow the material to be in contact with the surface to be cleaned for approximately 15 (fifteen) minutes. For highly contaminated surfaces allow a set time of 20 to 25 minutes.

D. **Pipe X-Metal X** may be removed with high pressure water or steam. If in an area where this is not possible, simply clean by applying water and wiping with absorbent cloths or wipe clean with water and cloths.

E. Effluent should be collected and disposed of in accordance with applicable State or Federal Regulations.

F. If more than one application is needed, repeat steps A through E.

Note: For surfaces with minimum contamination levels **Pipe X-Metal X** may be diluted up to 5 to one with water.

Back to Main Catalog

CHEMICAL SOLUTIONS INTERNATIONAL

Pipe X-Metal X

(Catalog # RP-102)

General Information - Application Information - MSDS

I Product: PIPE X-METAL X	
Description: Clear Liquid Manufacturer: **Chemical Solutions Int'l. Corp.** **P.O. Box 891185** **Houston, TX 77289-1185**	Date Prepared: September 2003. Emergency Telephone No. **(281) 992-3031** **(800) 424-4804** E-mail: chemsol@chemicalsolutionsintl.com Home Page: www.chemicalsolutionsintl.com

II Health Hazard Data:

Health Hazards (Acute & Chronic)
EYES: May cause disconfort.
SKIN: Concentrate will dry out and chap sensitive
skin as would detergent.
INHALATION of fumes may upset stomach.

SIGNS AND SYMPTOMS OF EXPOSURE:
EYES:Tearing, redness, blurred vision.
SKIN: Dryness, redness, chapping.

FIRST AID:
EYES: Flush 15 minutes with water.
SKIN:Wash with soap and water.
INHALATION: Move to fresh air. Apply artificial respiration if breathing has stopped.
INGESTION: Do not induce vomiting. If any
irritation persists, seek medical attention.

III Precautions for Safe Handling & Use:

If material is spilled, remove leaking package to safe area. Flush with water.
Disposal: Any approved method for dilute cleaner.
Surfactants are highly biodegradable.

IV Physical Data:

V Hazardous Ingredients:

PIPE X-METAL X is a proprietary formulation which contains small amounts of minerals and organics.
This product should be handled accordingly.
Complies with OSHA 29 CFR XVIII-1910.1200 Section (I) "Trade Secrets"
Contains no hazardous components under current OSHA definitions.

VI Special Protection & Precautions:

Hygienic Practices: Wash after each shift.
Remove and wash contaminated clothing before re-used.
Work Practices: Wear goggles or face shield. Rubber gloves.
Other Protective Clothing: Long sleeved shirt buttoned at neck. is desirable. Rubber boots.

VII Reactivity Data:

Stable under normal use and storage conditions.
Incompatible with strong oxidizing agents.
Hazardous decomposition or byproducts - oxides of carbon.

VIII Fire & Explosion Data:

Flash Point/Method Used..... None/COC.

IX Control Measures:

Respiratory Protection: Not Necessary.

pH.....10.5 Solubility in water..... 100% Boiling Point..... 212°F Vapor Pressure/Density..... Same as water Evaporation Rate (Butyl Acetate=1).....<1 Appearance & Odor: Clear liquid with medium viscosity and cleaner odor. Specific Gravity.....1.06	Ventilation: Local Exhaust/Desirable. Mechanical/Reccomended in congested areas. (Complies with OSHA 174, Sep. 1985.)

HMIS CODE: Health 1 Flammability 0 Reactivity 0 Personal Protection B

"To the best of our knowledge the information contained in this MSDS is accurate. However, neither Chemical Solutions Int'l. Corp. nor any of its affiliates makes any warranty expressed or implied, or accepts any liability in connection with this information or its use."

Back to Main Catalog

APPENDIX F: WASTE MANIFESTS AND CERTIFICATES OF DISPOSAL

NONHAZARDOUS WASTE MANIFEST

Please type (or print)

1. Generator's US EPA ID No. CTD983870593 Manifest Document No. 48313

2. Page 1 of 1

3. Generator's Name and Mailing Address
Yale University - Environmental Services Section
P.O. Box 208112
New Haven, CT 06520-8112

4. Generator's Phone (203) 432-9384 Attn: JoAnn Farrell

A. Nonhazardous Waste Manifest Document Number
UIS A 0248313

B. G.S.I. (Gen. Site Address)
Wright Lab (WNSL) West
268 Whitney Ave.
New Haven, CT 06511

5. Transporter 1 Company Name
UNITED INDUSTRIAL SERVICES

6. US EPA ID Number
CTD021816889

7. Transporter 2 Company Name

8. US EPA ID Number

C. S.T.I. (Trans. Lic. Plate #) 17380 01

D. Tran. Phone (203) 238-6745

9. Designated Facility Name and Site Address
UNITED OIL RECOVERY INC.
136 GRACEY AVENUE
MERIDEN, CT 06451

10. US EPA ID Number
CTD021816889

E. S.T.I. (Trans. Lic. Plate #)

F. Tran. Phone ( )

G. State Facility's ID (Not Required)

H. Facility's Phone 203 238-6745

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-DOT / Non-RCRA Regulated Material, (Waste Water), None, None	001	TT	XX648	G	EPA None / STATE CT04
b.					EPA / STATE
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials Listed Above
a. Rinsewater
c.
b.
d.

K. Handling Codes for Wastes Listed Above

	Interim	Final		Interim	Final
a.	H135		c.		
b.			d.		

15. Special Handling Instructions and Additional Information
3607 IPHDM
24 Hour Phone # (203) 238-6745

Point of Departure:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
JoAnn Farrell	JoAnn Farrell	12	14	07

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
STEVE BROOKS		12	14	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		.	.	.

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Melanie Cotarmas		12	14	07

1/9/0845

COPY 2 FACILITY MAILS TO GENERATOR

Certificate of Disposal

This is to certify that materials from Yale University – Environmental Service Station on non-hazardous waste manifest number UISA0248313 were received at United Oil Recovery, Inc. The materials were treated at our facility at 136 Gracey Avenue, Meriden Connecticut. The petroleum and/or solid phase were blended with other materials and burned for its thermal value. The aqueous phase was treated by ultra filtration, reverse osmosis, carbon adsorption and chemical precipitation.

If you have any questions or would like to visit our facility, please feel free to contact us at (203) 238-6745. Thank you for choosing United Oil Recovery, Inc. for your treatment and recovery needs.

December 28, 2007
Date

William Morris
Environmental Director

1/9/08 4

NONHAZARDOUS WASTE MANIFEST

Please type (or print): t0

1. Generator's US EPA ID No.: CTD983870529 | Manifest Document No.: 35420 | 2. Page 1 of 1

3. Generator's Name and Mailing Address
YALE UNIVERSITY- ENVIR SCV SEC
P.O. BOX 208112 NEW HAVEN, CT 06520-8112
203 432-9384 ATTN:JO ANN FARRELL

4. Generator's Phone ( )

A. Nonhazardous Waste Manifest Document Number: UIS A 0282544

B. G.S.I. (Gen. Site Address)
WRIGHT LAB (WMSL) WEST
268 WHITNEY AVE
NEW HAVEN, CT 06511

5. Transporter 1 Company Name: UNITED INDUSTRIAL SERVICES
6. US EPA ID Number: CTD021816889
C. S.T.I. (Trans. Lic. Plate #): J-16891-CT
D. Tran. Phone (203): 238-6745

7. Transporter 2 Company Name
8. US EPA ID Number
E. S.T.I. (Trans. Lic. Plate #)
F. Tran. Phone ( )

9. Designated Facility Name and Site Address
BRIDGEPORT UNITED RECYCLING
50 CROSS STREET
BRIDGEPORT, CT 06610
10. US EPA ID Number: CTD002593887
G. State Facility's ID (Not Required)
H. Facility's Phone: 203 334-1666

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON DOT / NON RCRA REGULATED MATERIAL, (WASTE WATER), NONE, NONE		D M		G	EPA NONE / STATE CR04
b. NON DOT / NON RCRA REGULATED MATERIAL, (CONCRETE), NONE, NONE	X08	D M	X3500	P	EPA NONE / STATE CR05
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials Listed Above
a. RINSEWATER
b. PCB CONCRETE FROM REMEDIATION

K. Handling Codes for Wastes Listed Above

Interim	Final	Interim	Final
a. M141		c.	
b.		d.	

15. Special Handling Instructions and Additional Information
3607IPHDMN1
0157JARN4
24 HOUR PHONE# (203)238-6745

Point of Departure:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
Brenda Armstrong	Brenda Armstrong	02	06	08

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
RANDY MCELROY		02	06	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		.	.	.

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Deborah Duquette		02	07	08

COPY 2 FACILITY MAILS TO GENERATOR

2/21/08 LT

Certificate of Disposal

This is to certify that materials from Yale University on non-hazardous waste manifest number UISA0282544 were received at Bridgeport United Recycling. The materials were treated at our facility at 50 Cross Street, Bridgeport Connecticut. The petroleum and/or solid phase were blended with other materials and burned for its thermal value. The aqueous phase was treated by ultrafiltration, chemical precipitation and carbon absorption.

If you have any questions or would like to visit our facility, please feel free to contact us at (203) 238-6745. Thank you for choosing United Oil Recovery, Inc. and Bridgeport United Recycling for your treatment and recovery needs.

February 21, 2008
Date

William Morris
Environmental Director

NONHAZARDOUS WASTE MANIFEST

Please type (or print)

1. Generator's US EPA ID No.: C T D 9 8 3 8 7 0 5 9 3
Manifest Document No.: 6 4 2 0 4

2. Page 1 of 1

3. Generator's Name and Mailing Address
YALE UNIVERSITY- ENVIR SCV SEC
P.O. BOX 208112 NEW HAVEN, CT 06520-8112

4. Generator's Phone (203) 432-9384 ATTN:JO ANN FARRELL

A. Nonhazardous Waste Manifest Document Number: UIS A 0264204

B. G.S.I. (Gen. Site Address)
WRIGHT LAB (WMSL) WEST
268 WHITNEY AVE
NEW HAVEN, CT 06511

5. Transporter 1 Company Name: UNITED INDUSTRIAL SERVICES
6. US EPA ID Number: C T D 0 2 1 8 1 6 8 8 9

C. S.T.I. (Trans. Lic. Plate #): T-16891-CT

7. Transporter 2 Company Name:
8. US EPA ID Number:

D. Tran. Phone (203) 238-6745

9. Designated Facility Name and Site Address
BRIDGEPORT UNITED RECYCLING
50 CROSS STREET
BRIDGEPORT, CT 06610

10. US EPA ID Number: C T D 0 0 2 5 9 3 8 8 7

E. S.T.I. (Trans. Lic. Plate #)

F. Tran. Phone ( )

G. State Facility's ID (Not Required)

H. Facility's Phone 203 334-1666

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON DOT / NON RCRA REGULATED MATERIAL, (WASTE WATER), NONE, NONE	X.04	D.M	00.2.2.0	G	EPA NONE STATE CR04/
b. NON DOT / NON RCRA REGULATED MATERIAL, (CONCRETE), NONE, NONE	X.05	D.M	X.3.5.0.0	P	EPA NONE STATE CR05/
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above			
		Interim	Final	Interim	Final
a. RINSEWATER	c.	a. T141		c.	
b. PCB CONCRETE FROM REMEDIATION	d.	b. T141		d.	

15. Special Handling Instructions and Additional Information
3607IPHDMN1
0157JARN4
24 HOUR PHONE# (203)238-6745

Point of Departure:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
Brenda Armstrong	Brenda Armstrong	02	06	08

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
RANDY McELROY		02	06	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		.	.	.

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Deborah Duquette		02	07	08

2/21/08

COPY 2 FACILITY MAILS TO GENERATOR

Certificate of Disposal

This is to certify that materials from Yale University on non-hazardous waste manifest number UISA0264204 were received at Bridgeport United Recycling. The materials were treated at our facility at 50 Cross Street, Bridgeport Connecticut. The petroleum and/or solid phase were blended with other materials and burned for its thermal value. The aqueous phase was treated by ultrafiltration, chemical precipitation and carbon absorption.

If you have any questions or would like to visit our facility, please feel free to contact us at (203) 238-6745. Thank you for choosing United Oil Recovery, Inc. and Bridgeport United Recycling for your treatment and recovery needs.

February 21, 2008
Date

William Morris
Environmental Director

Subsidiary of Avalon Holdings Corporation
One American Way • Warren, Ohio 44484-5555 • (330) 856-8800

NON-HAZARDOUS WASTE MANIFEST

DOCUMENT NO. 184491

SECTION 1 THIS SECTION TO BE COMPLETED BY GENERATOR:

COMPANY NAME	ADDRESS	WASTE I.D. NUMBER
BRIDGEPORT UNITED RECYCLING	50 CROSS STREET	413317
	CITY BRIDGEPORT STATE CT ZIP 06610	P.O. NUMBER

NAME OR DESCRIPTION OF WASTE SHIPPED

OIL CONT. SOLIDS & VAR. N-H WASTES FACILITY APPROVAL #:29513

COMMENTS/FACILITY APPROVAL #

IN CASE OF AN EMERGENCY OR SPILL CONTACT	NAME	PHONE NO.	24-HR. EMERGENCY NO.
	WALTER TEROELI	(203)334-1666	(203)334-1666

I hereby certify that the above named waste(s) are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the DOT and the EPA.

GENERATOR SIGNATURE [signature] DATE 2-12-08

SECTION 2 THIS SECTION TO BE COMPLETED BY THE HAULER/TRANSPORTER:

COMPANY NAME	ADDRESS		PHONE NO.
Logic [illegible]	59 [illegible]		[illegible]
VEHICLE I.D. NO.	STATE	BOX NUMBER-IN	BOX NUMBER-OUT	JOB NO.
3732 [illegible]	CT			

I hereby certify that the above described wastes were accepted for transportation at the producer's site and delivered to and off-loaded at the waste facility, both as listed hereupon.

PRINT DRIVER'S NAME [illegible] DATE 2-12-08

DRIVER'S SIGNATURE [signature]

SECTION 3 THIS SECTION TO BE COMPLETED BY RECEIVER AT DISPOSAL SITE:

FACILITY NAME	ADDRESS	PHONE NO.
WM/AMERICAN LANDFILL	7916 CHAPEL STREET SE WAYNESBURG, OH 44688	(330) 866-3265

COMMENTS

I hereby certify that the above described wastes were delivered to this Facility, that the Facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE [stamp: DOSSIER]

SECTION 4 ASBESTOS (Operator to complete)

"Operator" is defined as the company which owns, leases, operates, controls or supervises the facility being demolished or renovated, or the demolition or renovation operation or both.

OPERATOR'S NAME PHONE NUMBER

OPERATOR'S ADDRESS

RECOMMENDED SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION ☐ FRIABLE ☐ NON-FRIABLE

Operator's Certification: I hereby warrant and declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and domestic law, regulations, ordinances, orders, rules and/or standards.

Operator's Name (print/type) Signature of Operator's Authorized Agent Date

RESPONSIBLE AGENCY
NAME AND ADDRESS

QUANTITY TO BE DETERMINED AT DISPOSAL FACILITY

GENERATOR/CUSTOMER - COPY 5

DISPOSAL FACILITY: Copy 1 AMERICAN WASTE MANAGEMENT SERVICES: Copy 2 TRANSPORTER: Copy 3 DISPOSAL FACILITY INVOICING: Copy 4 GENERATOR/CUSTOMER: Copy 5

WASTE MANAGEMENT

AMERICAN LANDFILL, INC.
7916 Chapel St. SE
Waynesburg, OH 44688
(330) 866-3265
(330) 866-3709 Fax

Waste Management American Landfill, Inc.

CERTIFICATE OF DISPOSAL

This letter is to certify that 21.15 tons, from Bridgeport United Recycling were disposed of in accordance with all applicable non-hazardous solid waste regulations. Waste was received and disposed of on Feb. 14, 2008.

Signature _____ Date 2/21/08
Landfill Representative